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Executive Summary

This document identifies which of the GAP curriculum's learning outcomes - taken from deliverable 3.2 - are most suitable for use in the design and implementation of the GAP game, then develops two scenarios to show how those learning outcomes might be used in context.

The general form of game best suited to incorporating the curriculum's soft skills focus is discussed first, with particular regard to trust, empathy, cooperation, communication, and cultural and gender awareness. Multiplayer online games, co-located cooperative games, and single-player role playing games are all considered as potential candidates. Single-player role playing games with a strong narrative focus are determined to be the most suitable of the three. Multiplayer games, amongst other constraints, will bias the assessment of a player's learning experience as other players will make each individual experience vastly different each time.

An important aspect of the GAP project is to ensure the performance of a playthrough can be measured against well-defined Learning Objectives. The document then outlines the general criteria that make a learning outcome more or less suitable for the type of game chosen, with an additional priority based on how well the learning outcome incorporates aspects related to trust, empathy, cooperation, communication, and cultural and gender awareness. Generally, learning outcomes related to having experiences - as a character, in a place, etc - are more suitable, while those related to quizzing a player's knowledge or those relying on a player to have full freedom of expression - e.g., in speech, body language, etc - are less so.

All of the learning outcomes from deliverable 3.2 are then ranked accordingly, with the top ~30% considered most suitable for the game listed. The majority of these learning outcomes predictably come from the Cultural Awareness, Gender Awareness, and Communication learning outcome sets.

Two scenarios are presented to illustrate how some of the thus identified learning outcomes might be translated into the game, with an additional note on how the history, politics, and power of individuals and organisations should be kept in mind when creating scenarios.

Finally, the document notes that it is highly likely not all of the most suitable learning outcomes identified will be included in the game, as they may detract from the game's design as it is iterated over and refined.



1. Introduction

The purpose of this document is to identify the learning outcomes (from WP3) that are suitable for inclusion in the GAP game. The WP4 contributors will then use this document as direct input for the design and planning of the game. The learning outcomes selected for the GAP curriculum as a result of work done in previous work packages are set out in the deliverable document 3.2. Learning Outcomes, Skills/Competencies Definitions, Methods & Metrics of Assessment.

Not all of the learning outcomes listed in deliverable 3.2 are suitable for implementation within the game. Some require either more expressiveness or interpretive capacity than a game can sensibly allow or, given the scope of the project and the timeframe allocated for implementation of the game, are simply too complex to be included.

Additionally, again due to time constraints, it will not be possible to include every technically suitable learning outcome within the game. The learning outcomes are thus also prioritised based on how closely they adhere to the game's stated training focus, namely soft skills training with particular regard to trust, empathy, cooperation, communication, and cultural and gender awareness, as determined by deliverable 3.2.

These constraints are discussed further in section two of this document which is followed, in section three, by the resulting list of most suitable learning outcomes. Section four contains a note on the history, politics, and power of the individuals and organisations in scenarios, and develops two example scenarios using some of the learning outcomes uncovered in section three.

Finally, as the game's design is iterated over it may no longer make sense or be feasible to include certain learning outcomes at expense of the overall game experience. Thus it should be noted that even the learning outcomes in section three are not guaranteed for inclusion within the game, and instead should be seen as a guide for its design.



2. Constraints

Not all learning outcomes from the GAP curriculum laid out in deliverable 3.2 are suitable for inclusion within the game, generally either being impractical, or having a lower priority when compared to other learning outcomes. This section discusses the constraints and priorities applied to the full set of learning outcomes to create a reduced list of learning outcomes more appropriate for use in the game's design.

Section 2.1 discusses existing games and work that touches on the GAP curriculum's learning outcomes, with a particular focus on those promoting trust, empathy, cooperation, communication, and cultural and gender awareness, as per the training gaps identified after stakeholder consultation.

Section 2.2 follows with a review as to what general form of game is best suited to incorporating the GAP curriculum's learning outcomes.

Section 2.3 contains the criteria on which learning outcome suitability is assessed. It provides an overview as to which learning outcomes or aspects of learning outcomes might be particularly well represented within the game - and which might not - with a focus on technological constraints and practical limitations.

Finally section 2.4 talks about how to prioritise those learning outcomes that can be well represented by the game. It touches on their importance with respect to the soft skills that are to be the game's focus, and their implementation complexity.

2.1. Soft Skills in Games

As per stakeholder consultation in WP3 there is a notable lack of soft skills training for peacekeeping personnel prior to deployment on conflict prevention and peacekeeping missions. Given the importance of soft skills in successful interaction and engagement with both the local population and international colleagues and organisations on mission, this lack is something the GAP curriculum and game seek to address. The soft skills determined (in deliverable 3.2) to be most useful for successful interactions on mission were those related to trust, empathy, cooperation, communication, cultural awareness, and gender awareness.



2.1.1. Trust Building, Communication, and Cooperation

Much work has been done around trust, communication, and cooperation in multiplayer and massively multiplayer online games.¹²³⁴ This encompasses many broad categories of games, including first-person shooters (e.g. Battlefield, Call of Duty, Counter-Strike), sports games (e.g., FIFA, Rocket League), strategy games (e.g., DotA, League of Legends), and persistent role-playing games (e.g., World of Warcraft, EVE Online). Such multiplayer online games require players to coordinate and cooperate on tasks to win or progress in the game - e.g., forming and sustaining groups to be competitive in team vs. team games, or assembling and managing a guild to organise 'raids' - a type of collaborative questing, in role-playing games. It should be noted, however, that all trust and cooperation engendered in any of these games is not as a result of direct interaction with the game itself, but rather as a byproduct of playing the game well, that is to say, learning to play effectively with other people. Additionally it should be noted that these trust relationships are much like trust relationships external to a game context - built up over time by repeatedly interacting with the same people.

There are also a great many games both digital (e.g., Overcooked, Lovers in a Dangerous Spacetime, N++) and physical (e.g., Pandemic, Space Alert, Sherlock Holmes Consulting Detective) providing space for trust and cooperation where people are co-located. Indeed, in many of these games learning to work with and trust the other player/s is the primary focus of the game. As with multiplayer online games, however, the trust building and cooperation is through interaction with the other player/s rather than directly through the game.

Both online multiplayer and co-located multiplayer games provide excellent opportunities for players to engage in practicing the process of building trust and engendering cooperation, but require multiple concurrent players.

While many games include building relationships with other non-player characters (e.g., Mass Effect, 80 Days) these fall far short of simulating fully realised cooperative trust based relationships - indeed, it is currently impractical for a game to accurately simulate this type of relationship. Instead these games rely on branching narrative structures or often hidden numerical gauges to develop the relationship based on the dialogue options the player selects or the actions they carry out in the game.

¹ Ducheneaut, Nicolas and Moore, Robert J. 2005. 'More than just 'XP': learning social skills in massively multiplayer online games.' *Interactive Technology and Smart Education*. Vol.2. No.2. pp.89-100

² Trepte, Sabine; Reinecke, Leonard; and Juechems, Keno. 2011. 'The social side of gaming: How playing online computer games creates online and offline social support.' *Computers in Human Behavior*. Vol.28. No.3. pp.832-839

³ Korsgaard, M. Audrey; Picot, Arnold; Wigand, Rolf T.; Welp, Isabelle M.; and Assmann, Jakob J. 2010. 'Cooperation, Coordination, And Trust In Virtual Teams: Insights From Virtual Games.' *In Online Worlds: Convergence Of The Real And The Virtual*. Springer London; London. pp.253-264

⁴ Siitonen, Marko. 2009. 'Exploring the Experiences Concerning Leadership Communication in Online Gaming Groups.' *In Proceedings of the 13th International MindTrek Conference: Everyday Life in the Ubiquitous Era*. ACM; New York. pp.90-93



While games that simulate relationships are not so effective at allowing players to practice the *actual* act of building trust or of engendering cooperation, they are appropriate for training players in trust building and cooperative *techniques*. These games allow the player to experiment with such techniques in a safe environment and can provide immediate relevant feedback on interactions.

2.1.2. Empathy, Cultural Awareness, and Gender Awareness

Games are particularly well suited to promoting empathy in players as they can allow the roles, responsibilities, perspectives, and daily life of other organisations and individuals to be experienced in a genuinely immersive manner. The ability of games to cultivate empathy in different ways has been variously studied, examples include the playing of prosocial games increasing empathy after play,⁵ designing games that promote empathy for an embodied character,⁶ the Proteus effect, whereby players will modify their behaviour to align with their perception of and the reaction of others to their avatar.⁷⁸

Generally, two broad categories of empathy are described, cognitive empathy and emotional empathy. Cognitive empathy or perspective taking is a conscious attempt at understanding another entity point of view, whereas emotional empathy is an automatic empathic response to another entity's perceived emotions. It has been suggested that both kinds of empathy are required to bring about a long-term change in a player's thinking about a topic.⁹ It follows that games that are particularly good at inducing empathy in a player will include opportunities for that player to relate to another player or character both cognitively and emotionally, i.e., by understanding both narratively and emotionally who that character is, their motivations, hopes, fears, etc. Many existing games employ these general techniques to great success.

Papo & Yo is one such example, a third-person allegorical narrative puzzle game about the designer's growing up with an alcoholic father. The story is that of a young boy's friendship with a usually gentle, helpful monster, however, when the monster eats a certain type of food - frogs - it changes into a terrifying unstoppable beast. Throughout the game there is always a lurking tension - for both the boy and player, a fear that the monster will find and consume a frog and transform.

That Dragon, Cancer is a vignette narrative game recounting the designer's young son's fight against and eventual demise to cancer. The player relives some of the parents' more poignant memories

⁵ Greitemeyer, Tobias; Osswald, Silvia; and Brauer, Markus. 2010. 'Playing Prosocial Video Games Increases Empathy and Decreases Schadenfreude.' *Emotion*. Vol.10. No.6. pp.796-802

⁶ Kors, Martijn J.L.; Ferri, Gabriele; van der Spek, Erik D.; Ketel, Cas; and Schouten, Ben A.M. 2016. 'A Breathtaking Journey. On the Design of an Empathy-Arousing Mixed-Reality Game.' In *Proceedings of the 2016 Annual Symposium on Computer-Human Interaction in Play*. ACM; New York. pp.91-104

⁷ Yee, Nick and Bailenson, Jeremy. 2007. 'The Proteus Effect: The Effect of Transformed Self-Representation on Behavior.' *Human Communication Research*. Vol.33. No.3. pp.271-290

⁸ Peña, Jorge; Hancock, Jeffrey; and Merola, Nicholas A. 2009. 'The Priming Effects of Avatars in Virtual Settings.' *Communication Research*. Vol.36. No.6. pp.838-856

⁹ Foubert, John D. and Perry, Bradford C. 2007. 'Creating Lasting Attitude and Behavior Change in Fraternity Members and Male Student Athletes.' *Violence Against Women*. Vol.13. No.1. pp.70-86



with their child - emotively narrated by the parents themselves - experiencing their joys and despairs through an incredibly difficult time.

These are just a couple of examples among many others (Depression Quest, Beyond Eyes, etc.) that employ prominent narratives aiding a cognitive understanding with supporting gameplay mechanics, role-playing, and narrative techniques that emphasise their emotional impact. Even games that are largely systems-based rely on strong characterisations to engender empathy. For example, *Papers, Please*, in which the player takes on the work of a border security guard, balancing the constraints of their job, the plight of potential immigrants, and their need to support a family - or *This War of Mine*, a survival strategy game in which the player gets to know and care for a small group of civilians in a war-torn city, scavenging for scarce resources and making tough decisions on their distribution when things fall short.

Games that are particularly appropriate for engendering empathy are those allowing players to experience the world as, or through, other characters with whom they can relate. The specific form such a game takes is less important, so long as it provides opportunity for a well-defined narrative - either implicit or explicit - and strong characterisation. However, a prosocial game whose main focus is its narrative would be the ideal.

Cultural awareness & gender awareness are both very broadly comprised of two interrelated components. The first of which - reflecting on and understanding one's own culture or gender and its implicit biases - is not something digital games generally deal with. The second component - learning about and understanding the cultures of others, how culture and gender interact, societal gender roles and pressures or expectations, sexualities, etc. - is something that digital games do and have explored. These games also tend to try and invoke empathy in their players, as frequently the topics they explore are situations, viewpoints, or roles that are not implicitly familiar to the player.

A small selection of games dealing with cultural and gender awareness include *Mainichi*, a narrative role-playing game about the social challenges the developer, a mixed race transgender woman, faces as she goes about her daily life; *Gone Home*, a narrative exploration game about coming of age and sexuality; *Never Alone (Kisima Ingitchuja)*, a narrative puzzle platformer weaving a traditional Alaskan Iñupiat tale with Iñupiat cultural artefacts and understandings; and *The Cat and the Coup*, a narrative documentary game about the 1953 American-engineered coup d'état in Iran.

As with games engendering empathy, games dealing with cultural and gender awareness tend to have a strong narrative component and characterisation, often also opting for culturally stylised art and audio direction, and supporting environmental storytelling to further serve the narrative and immerse the player. It is likely a game exploring these topics would benefit from role-playing and a strong narrative focus within an evocative environmental setting.



2.2. Game and Narrative Structures Suitable for GAP

As discussed, a number of game types emerge as being the most appropriate for incorporating the soft skills of the GAP curriculum, namely, massively multiplayer/multiplayer online games, co-located cooperative games, and role-playing games with a strong narrative focus.

Multiplayer online games and co-located cooperative games are useful for practicing the building of trust based cooperative relationships, however, they are not fittingly appropriate for the inclusion of the other soft skills of the GAP curriculum. They additionally have a number of other downsides, as discussed below.

A game with a strong narrative focus seems the best fit for covering as much of the GAP curriculum as possible, and offers a more flexible approach for the game's implementation and a more quantifiable means of assessment.

2.2.1. Multiplayer Games

Considering scope alone (i.e., without considering general usefulness), massively multiplayer online games are not within the purview of the GAP project, requiring thousands of simultaneously active players at any given time, continuous maintenance and support, and more time and resources for implementation than currently available.

While multiplayer online games and co-located cooperative games both provide excellent opportunities for players to practice communicating and building trust based cooperative relationships, they are less useful for consistently engendering empathy or dealing with cultural or gender awareness. Multiplayer online games by nature must be played with other people. The game thus can't rely on those people not interfering - either maliciously or accidentally - with the gameplay of other players. It may be possible to separate players from the multiplayer aspects of the game when such soft skills are being referred to, however, this would essentially lead to the design of two separate though interconnected games - which is outside the scope of the GAP project.

An important aspect of the GAP project is to ensure the performance of a playthrough can be measured against well-defined Learning Objectives. The existence of multiple simultaneous players makes the objective measuring of individual player performance considerably more complex than in a single-player scenario. If a player performs well against the objectives in a single-player experience, it is safe to say they did so on their own accord. In a multiplayer experience, where the game system has no control of other (cooperative or competing) players, one player's success or failure could be attributable to the actions of other players, rather than the player being assessed. Ensuring a consistent learning experience - in particular consistent assessment - is therefore much more complex with multiple simultaneous players than a single player.

Multiplayer online games and co-located cooperative games also require either a number of players to be active online, or in the same place at any given time - note that a stated goal of GAP was to not



require such collocation - rendering them useless for a single player attempting to complete the game in their own time.

These multiplayer game types are also likely to have and benefit from communications potentially external to the game - i.e., in-person interactions for co-located games, or online voice communications for other forms of multiplayer game, thus could require external systems to monitor and measure such communications for the game's assessment.

Finally, due to the potentially sensitive nature of some of the game content an online game is less desirable, being inherently less secure.

2.2.2. Narrative Games and Structures

A single-player game with a strong narrative focus, compelling characterisation and role-play, and evocative environmental flavour seems the best fit for the GAP project. This game type would be able to cover most of the core GAP soft skills, allowing players to experiment within a safe environment, providing responsive feedback to their in-game interactions. The exact details and specifics of this game may vary provided the core as described remains.

Such a game would additionally allow for a consistent assessment of each player's gameplay experience and in-game actions and responses, as each player's session will be comparable.

A number of options can be taken into consideration for the design of a narrative game, as follows:

Narrative Point of View

- First-person - in which the player is placed in one character's subjective experience of the narrative and limited to only their point of view at any given time. This offers greater opportunity for full player immersion and empathy with the character whose point of view is taken. Switching between first person points of view can be done, but carefully so, to avoid disorientation.
- Second-person - in which instead of inhabiting a character or avatar, the player is the direct protagonist of the game. This option has less potential for immersion and empathy, as the player does not embody a character. This also doesn't allow for easy switching between characters.
- Third-person - in which the player controls an avatar instead of directly embodying a character. This is potentially less immersive, but allows for switching between characters more easily.

Number of Characters

- Single character - would allow an in-depth exploration and deep immersion - but at the expense of perspective diversity.
- Multiple characters - would allow the player to experience multiple roles and points of view, but perhaps not manage to become as immersed in each as with a single character.



Language Density

How dense - i.e., in both frequency and volume - the language in the game is. This includes both written and spoken language. A very dense game may be almost entirely composed of written text and/or spoken audio, whereas a less dense game might include very little of either, and be predominantly graphical in nature. A dense game allows more detail, characterisation, and nuance to be added comparatively inexpensively, but can be less involving.

Systematic Complexity

How heavily systemised the game is - i.e., a heavily systemised game (or simulation game) would consist mostly of challenges involving understanding and manipulation of the game's mechanics, whereas a lightly systemised game may be almost entirely narrative, with very little mechanical complexity. While systems can be involving and exciting to many players, equally they can alienate others. Work done in implementing and balancing systems would reduce the time available to work on a coherent and compelling narrative.

Medium

- Virtual Reality - would allow a much greater sense of immersion, but is decidedly more costly and complicated to deploy, test, and implement. Does not preclude also having a PC version of the same game for some additional effort. Requires a first-person or second-person narrative point of view, none or infrequent and very careful switching between characters, low textual density, and light systemisation.
- PC game/computer game - less immersion than virtual reality, but less technologically expensive to deploy, test, and implement. Any of the listed narrative game options may be made use of.
- Mobile - less immersive, but possibly the cheapest and easiest option to deploy, test, and implement. Would suit a greater language density than other mediums and couldn't be as graphically complex.

Narrative Structure

The way the game's narrative is structured can limit but also positively affect the play experience. While a great many narrative structures exist, only a subset would be potentially useful for the GAP game, as follows:

- Linear - in which events generally occur in order, without much deviation from the prescribed path. This is the simplest structure to write and implement, but potentially the least interesting for the player. This structure can be tightly scripted, allowing the game's narrative to have a very cohesive overall feel.
- Branching - in which events occur in order, however, player choice allows the narrative to follow one of a number of possible paths. How far these paths deviate from the main narrative is dependant on the game, and complicated branching can be expensive to implement. A linear narrative with some branching sections that recombine is likely the best choice for the game.
- Nonlinear - in which events do not occur in a strict chronological order. If in a virtual reality game this would require careful design to not be disorienting. This is a potentially very



interesting structure, however, combining a non-linear and a branching narrative would likely be too confusing for the player.

- Threaded - in which events occur in a linear order, but the overarching narrative is composed of multiple isolated narratives that are interconnected in some way. Would not work well for a virtual reality game, but could be an interesting option otherwise. May reduce empathy and immersion by jumping between characters too frequently.

2.3. Learning Outcome Suitability

Not all learning outcomes are suitable for inclusion in the game. Some learning outcomes require either more technological capability than the game can sensibly allow or, given the game's suggested narrative focus, simply don't fit within its framework. Conversely, some learning outcomes are particularly well suited for inclusion within this type of game, as discussed in sections 2.1 and 2.2 of this document.

Learning outcomes that would work particularly well within a game with a narrative focus include those which:

- Require the player to empathise with another person, or group of people
- Require the player's full immersion in and reading of an unfamiliar scene
- Include aspects of planning and decision making
- Require the player to respond - possibly under time pressure - in one of a set of predetermined ways
- Benefit from providing the player with objective feedback on their interactions

Learning outcomes which would not work within a narrative game include those which:

- Require extensive repetitive quizzing of the players knowledge
- Require the player to look up, sort, or otherwise manage information

Learning outcomes which are technologically impossible or impractical for a narrative game to implement include those which:

- Require the game to interpret any sort of free expression made by the player, including but not limited to interpreting speech or written expression, body language (particularly nuanced), or internal reflection and thoughts
- Require the player to demonstrate unbounded problem solving or lateral thinking skills, or initiate any unbounded action
- Require interaction with complex systems, e.g., large simulated human social networks
- Require use of the player's sense of smell or taste



2.4. Prioritising the Learning Outcomes

It will likely not be possible to include every suitable learning outcome within the game, due to time constraints. Therefore learning outcomes are prioritised based on how closely they adhere to the game's soft skills training focus, particularly those related to trust, empathy, cooperation, communication, and cultural and gender awareness, with respect paid to their implementation complexity.

Learning outcomes can appear within the game in a number of different ways - for some it will make sense to include the learning outcome as a skill the player can concretely show competency in, whereas for others it may make more sense to use the game to create experiences relating to that learning outcomes instead.

It should be noted that the game's focus is not on training heavily mission specific details or assessing the player's range of factual knowledge.

The set of suitable prioritised learning outcomes follows, in section three.



3. Suitable Learning Outcomes

Using the constraints listed in sections 2.3 and 2.4 the learning outcomes were reviewed (see Annex A), tabularised, and ranked (see Annex B), the result of which identified the learning outcomes we assess to be most suitable for inclusion within the game. Those learning outcomes are presented in this section in order of priority with occasional additional comments as to how they might best be implemented.

It should be noted that this list offers a guide for the game's design, rather than a direct specification of the learning outcomes to be covered by the game.

Generally, it is expected that, if included in the game each of the learning outcomes listed below will be designed in such a way as to allow the player to interact with and familiarise themselves with the type of situation the learning outcome describes. That is to say, the game itself will not attempt to quiz the player or require them to explicitly analyse concepts, as many of the learning outcomes describe. However, it should be noted some of the learning objectives will be achievable through a combination of in-game and out-game assessment as described in deliverable 4.2. It is also expected that the game will be able to provide feedback to the player within the structure of the game's narrative as to the effects of the player's actions. Finally, it should be remembered that for all opportunities to interact, only a discrete set of actions can be made available to the player through the game, so it is likely that at least in some instances the player's choice of action will be influenced by what's made available to them.

As a closing remark on the above, it should be noted that the choice of medium can have an impact on how well - or even if - a learning outcome can be achieved. For example, a player's enaction of interpersonal distance will have much more visceral meaning in virtual reality than in other mediums, and could thus tell us something about the player's interaction with power relations, gender, and culture that other mediums could not.

Cultural Awareness #14: Be able to describe how cultural differences and different kinds of diversity might be evident in the mission environment between organisations, and in the host country, and how to show respect for this in a multicultural peacekeeping environment.

Gender Awareness #19: Be able to analyse the activities, motives and interests of actors on the problem, as well as the relationship between actors.

Gender Awareness #11: Understand and explain the role and impact of traditional practices on self, own organisation, other organisations and wider society in terms of how it perpetuates gender stereotyping and inequality.

This learning outcome could be attained by allowing the player to achieve an understanding of gender roles resulting from experiential learning through role-play. Once this understanding is achieved, the player could arguably be able to explain the impact of traditional gender practices on his or her own experience in their organization, and missions.

Cultural Awareness #10: Demonstrate how the worker's own culture, gender and beliefs affect the way that they view the behaviour of others and why it is important to recognise and challenge this.

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This learning outcome would not take the player's own culture, gender, and beliefs, however it would be possible to illustrate how a person's culture, gender, and beliefs can affect the way in which they view the behaviour of others through the player's character or other characters within the game.

Cultural Awareness #6: *Demonstrate the importance of recognising that missions bring heterogenous personnel into contact with a range of in-mission organisations and local people who often draw upon cultural background different from those of own organisation and staff.*

Gender Awareness #21: *Be able to maintain fairness for all parties involved in the process.*

Gender Awareness #3: *Demonstrate theories/good practice relating to the use and misuse of power and discrimination.*

Communication #14: *Be able to demonstrate trust, rapport and communicate in a polite, respectful, ethical, timely, patient and culturally- appropriate manner.*

Gender Awareness #20: *Be able to analyse the role of institutions in shaping the attitudes and perceptions of women, men, girls and boys.*

Gender Awareness #15: *Be able to build rapport and communicate in a professional, timely, patient and appropriate manner.*

Stress Management #10: *Be able to demonstrate the capacity to be empathic and understand another person's experience from their perspective.*

Cultural Awareness #7: *Demonstrate systems of building trust, and the importance of doing so for success of the mission.*

Cultural Awareness #2: *Demonstrate the power dynamics within internal and external communities including inter-organisation especially due to gender, caste, class, ethnicity, and disability which may make it difficult to hear some voices/opinions.*

Leadership #12: *Demonstrate methods for establishing good relations with other mission actors and organisations as well as the local population, respecting individual national cultures.*

Cooperation #18: *Be able to interact in a culturally aware and sensitive manner, while establishing respectful relationships to promote national/international cooperation.*

Cultural Awareness #19: *Be able to analyse key actors directly or indirectly involved or who have influence over a particular problem including the role of power relations.*

This learning outcome could expect the player to analyse who to interact with to solve a problem.

Cultural Awareness #12: *Demonstrate a range of engagement styles to use with different actors.*

Cultural Awareness #9: *Demonstrate how culture, gender and beliefs can affect what is perceived as 'acceptable' and 'non-acceptable' behaviour (such as it may be seen to be more acceptable for men to be assertive than women).*

Decision Making #16: *Be able to source and work with organisationally approved interpreters to meet identified communication needs of participants.*



Communication #12: *Demonstrate the role of emotional intelligence in communication models including recognising own feelings.*

While it should be possible for the player to make choices that show empathy with the character they're playing as, internal reflection and recognising the player's own feelings would be better assessed outside the game.

Cultural Awareness #8: *Identify and discuss the types of power relations within different contexts in terms of the impact on gender inequality.*

Cultural Awareness #3: *Demonstrate the range of tools used in encounters where diversity, tensions and conflicts can be expected to arise and a clash of cultures is often inevitable.*

Stress Management #8: *Demonstrate how to support others deal with stress.*

Stress Management #6: *Demonstrate different forms of stress and stress indicators, and the importance in addressing these when detected in self and others. Including e.g. housing discomforts, food etc.; travel delays; lack of safety and security; health hazards; immobility, inactivity, lack of exercise; problems at home, missing family and friends; witnessing violence or tragedy; inability to make a difference, lack of progress, apathy among responders or survivors; noisy or chaotic environment; malfunctioning equipment; no rest or relaxation periods; unclear or constantly shifting tasks, unrealistic expectations; media attention at your location; non-recognition of work or hostility towards your efforts; pressure to achieve; unsupportive or difficult colleagues or superiors; anxiety about the mission and your skills to respond; lack of resources or limited control of situation; cultural and linguistic differences; permanent availability and constant demands from HQ.*

Stress Management #1: *Demonstrate how to maintain psychological and physical health and well being.*

Leadership #17: *Be able to apply mediation and negotiation skills in your role as leader including the use of a language assistant in an exercise.*

Cooperation #11: *Be able to demonstrate the importance of being proactive, and taking accountability to team working and trust building.*

Communication #13: *Demonstrate how to establish and maintain effective communication in missions, with a range of actors, which ensures integrity, respect, and transparency.*

Decision Making #5: *Demonstrate the role of interpreters and translators in interpreting and translating everything that is said or written, and the range of methods for working with interpreters.*

Communication #7: *Demonstrate when it is recommended to use an interpreter who can convey the message with the needed level of accuracy and precision, and methods for ways of working with interpreters'/language assistants to achieve mission goals.*

Communication #5: *Demonstrate the importance of nonverbal communication, such as body language, and how different cultures and genders use and interpret body language in different ways.*

It would be possible for the player to read and respond to a character's body language within the game, and for the game (if it were built to make use of the player's body motions as input) to read and interpret a rudimentary abstraction of the player's body language - e.g., crouching or standing, arms held up or down, etc. Nuanced conversational body language, however, would be indistinguishable.



Gender Awareness #13: *Demonstrate power relations include but are not limited to class, race and sexism.*

Cooperation #19: *Be able to create transparency by acknowledging and correcting mistakes, apologising quickly and demonstrating humility.*

Communication #17: *Be able to recognize, and act on, discrimination based on gender or sexuality.*



4. Application of Learning Outcomes

Following on from section three, two potential scenarios have been developed to illustrate how some of the identified learning outcomes might be translated into a game.

The first, in section 4.2, includes casual interaction with other international officers, working with an interpreter, culturally aware and respectful communication, and empathising and showing sensitivity in a delicate situation.

The second, in section 4.3, is an example of an experiential application of learning outcomes, and includes interactions sensitive to gender, culture, and the power relations inherent in those.

Preceding both of these a short section is included on the general history, politics, and power of the individuals and organisations in scenarios, which should be kept in mind for the creation of all scenarios.

4.1. A Note on History, Politics, and Power

The interviews, scenarios, and learning objectives were all undertaken with an awareness of the organisational differences between the end user partners (militaries, police organisations, civilian organisations/NGOs), and with an awareness of the differences between individuals within these organisations, including in terms of their gender, age, cultural background, their family status, and experience in peacekeeping.

Paying attention to the type of organisation involved in GAP is particularly important as militaries, police forces, and civil administration and NGOs all have very distinctive organisational histories, politics and roles in power. Militaries for example have traditionally been the power underpinning the State, as have many police forces, embodying as they do the threat of force. This history and role has also meant that until recently, and still to varying extents, historical forces around the role of women in society precluded women from joining militaries, or playing a fully participative role in the organisation. Police forces have been less exclusive of women. Both militaries and police however, have been overwhelmingly male in composition, and masculine in institutional culture. Civilian organisations in recent decades have been more balanced, and they don't have the historical role of backing the rule of law and power of the state with the threat of force in the service of that state. However, civilian organisations have also grappled, as have militaries and police forces, with institutional cultures that see the male as the 'norm' with negative consequences for recruitment, promotion and respect in the workplace for women.

Recently, all three types of organisations have grappled with falling recruitment of the typical traditional candidate (young, male, heterosexual) and have recognised that to meet recruitment targets of individuals with appropriate skills in an interconnected and technological era, and at the same time adhere to international norms of diversity and social justice, recruitment of women and

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LGBTQ personnel must increase. However, the established history, politics and power of these organisations do not make them attractive to non traditional candidates and the institutional culture can make communication and cooperation between diverse individuals in these organisations challenging.

Awareness of this context enables us to understand the data, and identify characteristics and interactions that reflect the history, politics and power of the individuals and organisations in scenarios so that these are faithfully simulated digitally.

4.2. Scenario: A Sensitive Meeting

Part 1: The player plays as a male international police officer stationed in part of a large, majority Albanian metropolitan area in Kosovo, in the year 2000. An officer under the player character's command recently hit and killed a young Albanian girl when she dashed out in front of his car while running from a dog. He was sadly unable to stop in time. The mission has sent the officer home, and the player has been tasked with investigating the incident and handling interaction with the family.

The player assumes control of their character in their police station and must figure out how to proceed with the case. On their desk are papers and documentation related to the case that they may review if desired. They may also talk to other officers or interpreters working in the police station, and examine other points of interest.

Talking to other international officers will reveal more about the officer involved in the accident and other details relating directly to the case. Conversations may also add colour to the scenario, with additional information on where the player is deployed, downtime activities, recent local events, the other officer's country of origin, etc.

Talking to local interpreters working in the station will reveal more about the local culture generally, but also cultural expectations and norms that may need to be taken into consideration for the case. For example, the player may discover that in cases like these, there is a local tradition of police compensation, and what amount would be appropriate. The player may also learn about other cultural norms and traditions, such as removing shoes on entering a house, not touching or shaking hands with women who are strangers, or about aspects of the Muslim faith, e.g., holy days, prayer times, or religious observances such as Ramadan.

Examining certain items or points of interest in the station may trigger the player character's inner monologue, allowing the player to get to know their character through their internal thoughts or recollections. For example, examining a photograph of the character's family on their desk may allow the character to recall when the photograph was taken and talk about their family at home.

Any information the player gathers while in the station will automatically update the papers on the player's desk. As information is gathered, the player will be offered choices as to how and when to proceed. To successfully handle the case, the player must learn that there is a tradition of police



compensation in this type of case. Once this has been done, the player can progress to the next scene.

Part 2: There is a tradition of police compensation in Albanian society, and the station's officers have, between themselves, raised a thousand euro to present to the family of the deceased girl. The player is now tasked with sensitively delivering this money and offering condolences.

The player is now outside the family home of the girl who died, here to delicately deliver compensation to her family. They are with one of the interpreters from the police station, an intelligent and trustworthy young woman called Nora, and a young American cultural advisor who they've never met, called Sam.

The player can choose to talk to Nora before entering, to agree on the tone of conversation, and to perhaps receive some useful cultural insights. They can also talk to Sam, the American cultural advisor, who in this case is not particularly knowledgeable, and only offers some misinformation.

The player, advisor, and interpreter then call to the house, and are permitted to enter by the girl's father, Adnan. On entering the house, the player must remember to remove their shoes and must appropriately greet Adnan, with the help of their interpreter. The cultural advisor does not remove his shoes, and should be instructed to do so by the player.

The player must now navigate a tense conversation with Adnan with the help of their interpreter. The cultural advisor occasionally unhelpfully interjects, and must be managed by the player so as not to cause offence. The interpreter will occasionally speak when she feels it's appropriate, without the player having said anything. The player must determine whether or not to do anything about this. If the player has learned about their character's family and children, or other background information, they can use this in conversation with Adnan to relate to his situation.

If the player tries to empathise with, and is respectful and genuine with Adnan, he will tearfully accept their compensation and the case can be resolved satisfactorily.

Learning outcomes touched on in part one of the scenario could include:

- Cultural Awareness #14 *how cultural differences and different kinds of diversity might be evident in the mission environment between organisations, and in the host country, and how to show respect for this in a multicultural peacekeeping environment.*
- Cultural Awareness #19 *analyse key actors directly or indirectly involved or who have influence over a particular problem including the role of power relations.*

In the second part, learning outcomes touched on or covered include:

- Communication #14 and Gender Awareness #15 *demonstrate trust, rapport and communicate in a professional, polite, respectful, ethical, timely, patient and culturally appropriate manner.*
- Communication #13 *establish and maintain effective communication in missions, with a range of actors, which ensures integrity, respect, and transparency.*



- Leadership #12 *establishing good relations with other mission actors and organisations as well as the local population, respecting individual national cultures.*
- Stress Management #10 *demonstrate the capacity to be empathic and understand another person's experience from their perspective.*
- Cooperation #19 *create transparency by acknowledging and correcting mistakes, apologising quickly and demonstrating humility.*
- Cooperation #18 *interact in a culturally aware and sensitive manner, while establishing respectful relationships to promote national/international cooperation.*

Additionally, interacting with an interpreter can cover learning outcomes including:

- Decision Making #16 *source and work with organisationally approved interpreters to meet identified communication needs of participants.*
- Communication #7 *demonstrate when it is recommended to use an interpreter who can convey the message with the needed level of accuracy and precision, and methods for ways of working with interpreters'/language assistants to achieve mission goals.*

4.3. Scenario: Interpreting on the Beat

The player plays as a female Albanian interpreter supporting two male officers on a foot patrol of a local neighbourhood in part of a large, majority Albanian metropolitan area in Kosovo, in the year 2000. One of the officers, Idrissa, is Senegalese and the other, Fabrizio, is Italian. The patrol is a community policing effort to build up friendly contact with the local population.

The player assumes control of their character while the group is walking around the neighbourhood. The neighbourhood is one which your character knows well, and is in a relatively safe part of the city. As they the player's character talks to the officers she's supporting, telling them a little about the area in which they're walking, and the people who live there. She can also occasionally comment to herself, adding small additional tidbits of information for the player on how she feels about things.

The Senegalese officer is being somewhat dismissive towards the player's character, and is generally ignoring her when she speaks, or talking over her to talk to the Italian officer. She has worked with him once before and knows he doesn't respect or like to work with female interpreters.

The Italian officer is very friendly to and interested in the player's character, occasionally talking over the other officer to make small-talk or flirt with her a little. While she is happy at least one of the officers is friendly, she would prefer if he could be more professional.

The player must play the role of interpreter while accompanying the officers. To do this, their character could interpret what other characters are saying as an internal monologue, and the player would then select which portions of this to convey - and in what tone.



The Italian stops to have a friendly chat with a local Albanian youth, asking about problems in the area and how the local community feels about the job the police force are currently doing. The kid is a friend of one of the player's cousins, and is happy to stop and talk for a while, though he does make some slightly off-colour - but jovial - remarks on how appropriate it is for the player's character to be alone with two foreign men. The player can choose exactly which parts of the conversation they wish to relay to the officers

A little later, the Senegalese officer is attempting to talk to another local, a diminutive elderly woman. However, the player's character is having trouble understanding his accent and he is having trouble understanding hers. Though the player can try to do their best here, communication eventually breaks down. Idrissa is becoming frustrated and impatient, and is raising his voice at the local, who is now looking more than a little afraid. Thankfully the Italian officer steps in and calms the situation down, cracking jokes on the absurdity of all communication being through English when none of you are actually native English speakers.

As the patrol group is nearing the end of their beat, a group of six men emerge from a nearby house. They are walking aggressively, and want to know why there are foreign officers in their neighbourhood. They almost surround the player's character for a moment, angrily demanding answers. The officers she is with push her behind them, but it is a tense exchange, with everyone in the group attempting to talk through the player's character. It is a frenzied and somewhat intimidating scene, as the player is surrounded by eight men, all taller and louder than their character, while they must attempt to interpret as quickly and as accurately as possible. Eventually the situation calms down, and the men leave, hopefully somewhat satisfied with the answers provided.

Finally the group finishes their patrol, the Italian officer is a little visibly shaken but is making light of the situation, the Senegalese officer remains stoic and silent, and the player's character internally reflects, allowing the player to hear some of her thoughts.

This scenario is largely experiential, and designed to induce empathy in the player for their character's situation. Thus, many of the learning outcomes incorporated in this scenario are examples of the issues a learning outcome touches on taking place in the world, rather than an opportunity for the player to demonstrate their understanding of a learning outcome. They include:

- Cultural Awareness #14 *how cultural differences and different kinds of diversity might be evident in the mission environment between organisations, and in the host country, and how to show respect for this in a multicultural peacekeeping environment.*
- Gender Awareness #19 *analyse the activities, motives and interests of actors on the problem, as well as the relationship between actors.*
- Cultural Awareness #6 *importance of recognising that missions bring heterogenous personnel into contact with a range of in-mission organisations and local people who often draw upon cultural background different from those of own organisation and staff.*
- Gender Awareness #15 *build rapport and communicate in a professional, timely, patient and appropriate manner.*



- Stress Management #10 *demonstrate the capacity to be empathic and understand another person's experience from their perspective.*
- Cultural Awareness #2 *power dynamics within internal and external communities including inter-organisation especially due to gender, caste, class, ethnicity, and disability which may make it difficult to hear some voices/opinions.*
- Cultural Awareness #12 *demonstrate a range of engagement styles to use with different actors.*
- Cultural Awareness #9 *how culture, gender and beliefs can affect what is perceived as 'acceptable' and 'non-acceptable' behaviour (such as it may be seen to be more acceptable for men to be assertive than women).*
- Cultural Awareness #8 *types of power relations within different contexts in terms of the impact on gender inequality.*
- Cultural Awareness #3 *range of tools used in encounters where diversity, tensions and conflicts can be expected to arise and a clash of cultures is often inevitable.*
- Communication #13 *how to establish and maintain effective communication in missions, with a range of actors, which ensures integrity, respect, and transparency.*
- Communication #5 *the importance of nonverbal communication, such as body language, and how different cultures and genders use and interpret body language in different ways.*
- Gender Awareness #13 *power relations include but are not limited to class, race and sexism.*
- Communication #17 *recognize, and act on, discrimination based on gender or sexuality.*



5. Conclusion

This document presented the learning outcomes most suitable for inclusion in the game in section three, after first discussing both the soft skills which are the focus of the GAP curriculum, and the types of game most suited to the GAP curriculum's content, in section two.

A couple of example scenarios were then developed to include these learning outcomes, while keeping in mind the history, politics, and power relations noted as important for scenario creation in section four, and also the possibility of achieving some of the learning objectives through a combination of in-game and out-game assessment.

This document will now be used by the WP4 contributors as guidance for the GAP game's design. It should be noted, however, that it is likely not all of the learning outcomes included in this document will make it into the game, as their inclusion may detract from the game as a whole when the design of the game is iterated over and refined.



6. References

- Ducheneaut, Nicolas and Moore, Robert J. 2005. 'More than just 'XP': learning social skills in massively multiplayer online games.' *Interactive Technology and Smart Education*. Vol.2. No.2. pp.89-100
- Foubert, John D. and Perry, Bradford C. 2007. 'Creating Lasting Attitude and Behavior Change in Fraternity Members and Male Student Athletes.' *Violence Against Women*. Vol.13. No.1. pp.70-86
- Greitemeyer, Tobias; Osswald, Silvia; and Brauer, Markus. 2010. 'Playing Prosocial Video Games Increases Empathy and Decreases Schadenfreude.' *Emotion*. Vol.10. No.6. pp.796-802
- Kors, Martijn J.L.; Ferri, Gabriele; van der Spek, Erik D.; Ketel, Cas; and Schouten, Ben A.M. 2016. 'A Breathtaking Journey. On the Design of an Empathy-Arousing Mixed-Reality Game.' In *Proceedings of the 2016 Annual Symposium on Computer-Human Interaction in Play*. ACM; New York. pp.91-104
- Korsgaard, M. Audrey; Picot, Arnold; Wigand, Rolf T.; Welp, Isabelle M.; and Assmann, Jakob J. 2010. 'Cooperation, Coordination, And Trust In Virtual Teams: Insights From Virtual Games.' In *Online Worlds: Convergence Of The Real And The Virtual*. Springer London; London. pp.253-264
- Peña, Jorge; Hancock, Jeffrey; and Merola, Nicholas A. 2009. 'The Priming Effects of Avatars in Virtual Settings.' *Communication Research*. Vol.36. No.6. pp.838-856
- Siitonen, Marko. 2009. 'Exploring the Experiences Concerning Leadership Communication in Online Gaming Groups.' In *Proceedings of the 13th International MindTrek Conference: Everyday Life in the Ubiquitous Era*. ACM; New York. pp.90-93
- Trepte, Sabine; Reinecke, Leonard; and Juechems, Keno. 2011. 'The social side of gaming: How playing online computer games creates online and offline social support.' *Computers in Human Behavior*. Vol.28. No.3. pp.832-839
- Yee, Nick and Bailenson, Jeremy. 2007. 'The Proteus Effect: The Effect of Transformed Self-Representation on Behavior.' *Human Communication Research*. Vol.33. No.3. pp.271-290



7. Annex A: Comments on Learning Outcome Suitability

In which learning outcomes for each of the soft skills themes are listed and commented on.

Communication

1. Demonstrate key theories and models of communication, including active listening and trust building within personal, internal, and mission communications, and how they apply to military, police and civilian organisations.

Active listening could be represented in the game but not easily without speech recognition, the scope of which is beyond the remit of this project to implement. Commercial speech recognition systems are available for use, however, they generally require transmitting voice data to a remote server, which would potentially have data protection issues. Additionally active listening includes non-lexical conversation sounds - e.g., “uh huh” - which speech recognition software can struggle with.

Presenting the player with multiple choice options throughout a conversation as active listening responses could attempt to represent active listening, however, the player would only need to have understood an approximation of what was being said to select the appropriate response - and thus, not a good representation of active listening.

Inter- and intra-organisational trust building can be represented within the game. This would probably require repeated interactions with the same characters/organisations within the game over time. Note, a comprehensive assessment of the player’s ability to build trust within and between organisations in-game would require substantial resources to implement.

2. Demonstrate what is meant by:

- a. gender*
- b. sex*
- c. masculinities and femininities*
- d. sexualities, heteronormative, transgender, homophobia*
- e. sexism and how it manifests itself within organisations and in CPPB*

The topics (a) through (e) could be touched on or quizzed within the game, however, these seem more suitable as ancillary learning, as games are more suited to experiential learning. Potentially (e), the manifestation of sexism within organisations, would work well as a component of a vignette within the game, as this would make for an illustrative experience.

3. Demonstrate how to source gender related information including UNSC 1325 and other relevant directives, feminist theories and gender mainstreaming regulations.



This learning outcome seems ill-suited to placement in the game, as it would require access to real-world external resources to demonstrate - and wouldn't make for a particularly interesting experience.

4. Demonstrate a deep understanding the benefits and disadvantages of differing communication methods and their effects on relationships and information sharing.

This could be partially implemented within the game. The player could be offered a number of different ways to communicate in different scenarios, and be expected to select the most appropriate. Teasing out whether or not the player has a deep understanding of their choice and its benefits and disadvantages would be harder to effect without adversely impacting the game experience.

5. Demonstrate the importance of nonverbal communication, such as body language, and how different cultures and genders use and interpret body language in different ways.

It would be possible for the player to read and respond to a character's body language within the game, and for the game (if it were built to make use of the player's body motions as input) to read and interpret a rudimentary abstraction of the player's body language - e.g., crouching or standing, arms held up or down, etc. Nuanced conversational body language, however, would be indistinguishable.

6. Demonstrate the role of effective communication in reducing and de-escalating conflict, including the type of constructive behaviour you can take to defuse situations including body language, spoken language, posture, emblems such as illustrators, affect displays, regulators, adaptors and para-language.

It would be possible to have situations within the game that allow for de-escalation. Permitting the player to select an appropriate response (or to not respond) can be facilitated. The ability of the game to detect the player's body language and posture, and also to interpret speech is difficult, and is touched on above. The ability of the game to read and interpret other kinesics is even more limited insofar as to be impossible for this project.

7. Demonstrate when it is recommended to use an interpreter who can convey the message with the needed level of accuracy and precision, and methods for ways of working with interpreters'/language assistants to achieve mission goals.

This could be incorporated in the game, allowing the player to decide when their character should interact directly, and when making use of an interpreter is more appropriate. Additionally it may be possible to allow the player to choose which interpreter would be more suitable for a given situation - and whether or not to give that interpreter any special directions.



8. Demonstrate how addressing the language barriers and working with interpreters impacts on communication.

This seems more suitable as a topic to be explored outside the game, as it seems to require reflection and discussion around a topic, rather than an experiential interaction.

9. Demonstrate procedures and requirements for formal information sharing between relevant organisations including the restrictions on the disclosure of sensitive information.

Small elements of this learning outcome could be incorporated within the game - e.g., not sharing sensitive information if given the option to. However, an extensive demonstration of procedures and requirements would not be an engaging experience.

10. Demonstrate how partner organisations are organised including:

- *their broad structures*
- *methods of communication*
- *decision making processes*

Components of this learning outcome could be touched on within the game - e.g., knowing who to communicate with in a partner organisation - however, a more extensive quizzing on partner organisation structures would not be an engaging experience.

11. Demonstrate the importance of keeping official and private information separate, and how to keep all data secure.

This learning outcome could be touched on within the game in a similar way to communication learning outcome #9 - i.e., not sharing sensitive information when compelled/given an option. However, an exhaustive review of the reasonings behind such choices would be hard to cover well within the game.

12. Demonstrate the role of emotional intelligence in communication models including recognising own feelings.

It would be possible to cover this learning outcome by having the player interact with and respond appropriately to characters in various suitable situations - de-escalation, empathic responses to difficult scenarios, etc. Additionally it should be possible for the player to make choices that show empathy with the character they're playing as. Internal reflection and recognising one's own feelings, however, would be better assessed outside the game - e.g., as a post-play introspective.

13. Demonstrate how to establish and maintain effective communication in missions, with a range of actors, which ensures integrity, respect, and transparency.



It might be possible to demonstrate this within the game over multiple vignettes, for example by presenting the player with choices that may initially benefit them, but go against the listed values - integrity, respect, transparency, etc. It would be resource intensive, however, to assess this learning outcome in great depth.

14. Be able to demonstrate trust, rapport and communicate in a polite, respectful, ethical, timely, patient and culturally- appropriate manner.

This would be partially representable within the game, however, as games generally only offer a subset of the options available in reality, it may be obvious which is the most appropriate response in a given situation, allowing the player to “game” the system.

15. Be able to demonstrate effective communications methods, including written, verbal and nonverbal, contextualised to the situation in order to:

- a. manage conflicts*
- b. establish shared understanding with the range of actors*
- c. achieve mission objectives*

A full expression of written, verbal, or non-verbal communications would be hard to measure within the game, as discussed above. The game could allow multiple choice options, however, those limit the player’s full ability to express.

16. Be able to source and share information using common language and terms with other organisations through an on-going culture of dialogue and cooperation in line with mission mandate and organisational processes.

It would be difficult to fully represent the complexity of this learning outcome within the game, however, it would be possible to present some aspects as multiple choice interactions with characters from other organisations.

17. Be able to recognize, and act on, discrimination based on gender or sexuality.

It would be possible to have vignettes within the game that allow the player to react (or not) to an unfolding situation in which some form of discrimination were taking place.

18. Be able to demonstrate work with an interpreter during risky negotiations, highly complex meetings or when detailed and sensitive information is being used.

Working with an interpreter during highly complex meetings with detailed information would not be practical to represent within the game, and would also not necessarily make for an interesting experience. Working with an interpreter under (time) pressure or showing discretion with regard sensitive information would be possible.



19. Be able to demonstrate keep secure records of expectations, conversations and agreed actions.

Keeping records within the game would not be a particularly interesting experience, so is not recommended for implementation. Additionally in-game assessment of record keeping would be impractical. External record keeping and assessment would be a more sensible approach.

Cooperation

1. Be able to demonstrate how to engage other actors in partnerships, in order to help generate enrichment opportunities.

It would be possible to have occasions within the game in which the player could choose to interact (or not) with other characters to create moments of insight or value.

2. Be able to demonstrate how to help others recognise increasing confidence and own self development.

It might be possible to have conversations with other characters within the game - or an internal monologue with the playable character - that allow the player to note such developments, however, as the game would present recognition as an option to be selected, it may not be a true recognition of development, rather a judiciously chosen response.

3. (see Communication learning outcome #2)

4. (see Communication learning outcome #3)

5. Be able to demonstrate qualities of a leader - should include at least five examples but are not limited to empathy, objectivity, transparency, accountability, responsibility, honesty, integrity, assertiveness, consistency and reference to historical and present leaders.

It may be possible for some of these qualities to be demonstrated within the game, however, how frequently they appear and how comprehensively they can be assessed will be resource reliant. Reference to historical and present leaders would be better assessed outside the game, as it would be difficult to allow the player to authentically demonstrate this kind of prior knowledge.

6. Be able to demonstrate leadership roles include but are not limited to being a visionary, motivating self and others, creating synergies, facilitating a developmental environment and being an innovator.

It would be difficult to allow some of these qualities to be expressed within the game. Being a visionary and an innovator would require some form of unrestricted input, e.g., speech recognition, which as previously discussed in Communication learning outcome #1 is unviable. Self motivation would be similarly difficult to represent. It may be possible to allow opportunities for the player to

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demonstrate a limited ability to motivate others, facilitate a developmental environment, or create synergies.

7. Be able to demonstrate methods of working which support principle of local ownership and multi-organisational partnerships.

It would be possible to engineer situations within the game that allow the player to demonstrate an understanding of and appreciation for local ownership and multi-organisational partnerships - e.g., providing opportunities for the player to involve other organisations within the game if they choose.

8. Be able to demonstrate the need for cultural awareness in both achieving your own goals, and the mission mandate.

It would be possible to allow the player to show an appreciation for and understanding of cultural awareness within the game, however, demonstrating that they recognise its value in achieving personal and mission goals would be better measured in a reflective exercise outside the game.

9. Be able to demonstrate organisational processes for building transparency without threatening the security of the mandate or other actors.

It would be possible to allow the player an opportunity to demonstrate an appreciation for both transparency and the security of the mandate/other actors, however, an extensive demonstration of organisational processes would be less viable.

10. Be able to demonstrate the range of different teams, organisations and specialties with which you need to work with.

This would be better explored outside the game, as it seems to require in-depth discussion of a topic, rather than an experiential interaction.

11. Be able to demonstrate the importance of being proactive, and taking accountability to team working and trust building.

It would be possible to have the player demonstrate this within the game - e.g., perhaps affording an opportunity for the player to address (or not) internal interpersonal team issues before such issues become untenable for effective working.

12. Be able to demonstrate mandates, policies, regulations, laws and procedures relevant to your mission and situation.

This is a topic better explored outside the game as this requires situationally specific knowledge and discussion. The focus of the game should be general soft-skills training rather than heavily mission-specific details.



13. Be able to encourage others to create opportunities to engage in social, community, voluntary and other cultural activities that meet their needs.

It may be possible to have the player interact with and guide other characters towards external activities, however, it would be more difficult to allow the player to tease out which activities meet the needs of the character they're interacting with, as the game may only provide a discrete number of potential responses.

14. Be able to use a range of methods and resources to help those within own organisation and other organisations to acquire and develop the personal and social skills and knowledge they need.

This would be unwise to implement, as including the full breadth of methods and resources available for personnel development within the game would be expensive to implement and be uninteresting as a player experience.

15. (see Communication learning outcome #17)

16. Be able to apply mentoring and advising activities in an exercise within own organisation and other organisations.

This would be difficult to fully represent within the game as proper mentoring requires a large time investment on the part of the mentor. Additionally, demonstrating good mentoring would require free expression rather than selecting from predetermined choices, as in a game.

17. Be able to apply leadership techniques to individuals and teams within the work context including inter-organisationally.

Again, this would be difficult to fully represent - while the game can allow for a choice of responses to certain situations requiring leadership, it cannot allow the player to construct an appropriate action from their personal sum knowledge.

18. Be able to interact in a culturally aware and sensitive manner, while establishing respectful relationships to promote national/international cooperation.

It would be possible to allow the player to demonstrate some awareness of and sensitivity toward other cultures while encouraging cooperation, however, the player will usually need to be prompted somehow as to whether or not they wish to do or say something. As such the player will not be demonstrating a true cultural awareness, rather a conscientiousness.

19. Be able to create transparency by acknowledging and correcting mistakes, apologising quickly and demonstrating humility.



It might be possible to create a situation within the game that afforded the player the opportunity to acknowledge and correct a mistake after making one, however, engineering a mistake for the player to make without their prior intent would feel fake and imposed. This is a learning objective that would be difficult to reliably demonstrate for every player of the game.

20. Be able to clarify realistic expectations by initiating discussions and validating understanding of all partners and organisations.

It would be very difficult to represent this fully within the game, as a genuine discussion requires an unpredictable back-and-forth between participants, which we can't accurately simulate.

21. Be able to build teams which interact across sectors (health, water, sanitation, shelter, nutrition, security, gender, the environment).

It would be possible for the player to demonstrate their understanding of the importance of building cross-sector teams, however, the actual team-building process would be difficult to represent for the same reasons Cooperation learning outcome #20 would be difficult to represent.

22. Be able to provide coordination groups with information about the agency's mandate, objectives and programme.

This would be more suitable as a topic for discussion outside the game, as it requires imparting personal knowledge and experience, rather than presenting an opportunity for a discrete interaction.

23. Be able to use participatory methods to build trust including openness and culturally appropriate communication.

It would be possible to allow the player to select between culturally appropriate and less culturally appropriate forms of communication within the game. Allowing the player to demonstrate openness and invite participatory interaction would be harder to provide opportunity for.

24. Be able to know your mandate, own organisation, other organisations and tasks to maintain situational awareness including the mechanisms of Coordination that underline the Peacekeeping Mission preparation and implementation.

This seems more suitable for a topic to quizzed outside the game, as including it as a game component would be uninteresting for the player.

25. Be able to work under changing situations demonstrating adaptability and advance planning.

It would be possible to allow the player to partake in advance planning within the game. It might also be possible to include opportunities to demonstrate some adaptability within the game,



however, the options available to the player will be predetermined, somewhat negating the lateral thinking component implicit in adaptability.

Leadership

1. Demonstrate national and mission legal and organisational requirements on equality, diversity, discrimination, rights, confidentiality and sharing of information when communicating, recording and reporting with in-mission actors.

It would be possible to include some aspects of this within the game, e.g., allowing the player to pick appropriate responses to certain situations or when to share information, however, fully demonstrating competency in this learning outcome would require much of the game to focus on only this topic.

2. Be resourceful when overcoming barriers to communication and barriers restricting the independence of those you support in own organisation, inter-organisation, and wider society.

As options available to the player within the game are predetermined it would be difficult to adequately allow them to demonstrate resourcefulness, i.e, an ability to think laterally. It may be possible to allow the player to pick unconventional responses to certain situations, or to allow the player to demonstrate backing for those they support, however, full and free expression of intent or action would not be viable within the game.

3. (see Communication learning outcome #2)

4. (see Communication learning outcome #3)

5. Demonstrate a variety of multi-disciplinary negotiation strategies and processes are understood in terms of process, application and strengths and weaknesses and when to select an appropriate strategy based on the negotiation at hand.

It would be possible to put the player in a number of circumstances within the game requiring the selection and execution of an appropriate negotiation strategy, however, a thorough review of all negotiating strategies and their processes, application, strengths, and weaknesses would be more suited to an external assessment.

6. Demonstrate a range of multi-disciplinary negotiation strategies including contemporary strategies such as distributive, integrative, positional, principled, interest-based, target-specific bargaining and problem-solving.

Again, as for Leadership learning outcome #5, it would be possible for the player to select an appropriate negotiation strategy from a predetermined set within the game in response to a given

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situation. It may not be possible to cover all negotiation strategies within the game, however, as this would require much of the game to focus only on negotiation strategies and their use.

7. Demonstrate how to conduct negotiations in a manner that maintains or enhances relationships and promotes outcomes that are satisfactory or advantageous in terms of the purpose of the negotiation.

While it would not be possible to allow the player a free range of expression in conducting negotiations within the game, it would be possible - as in Leadership learning outcomes #5 and #6 - to allow the player to select an appropriate negotiating strategy and to conduct that strategy (via a set of predetermined responses) in a manner conducive to maintaining or enhancing relationships and promoting satisfactory or advantageous outcomes for a given situation.

8. Demonstrate the situations to use and processes to follow to use mediation as a tool of diplomacy seeking to prevent, mitigate and resolve conflicts by opening up communication channels between adversaries.

As for Leadership learning outcome #7, while a free range of expression in mediation would not be possible, it would be possible to put the player in situations that may allow them to demonstrate the use of mediation to ameliorate conflicts.

9. Demonstrate how mediation processes are adaptive and enable or facilitate dialogue between a broad range of actors including mission actors, other organisations, civil society, national and community leaders, and others.

As per Leadership learning outcome #8, it would be possible for the player to demonstrate the use of mediation in response to various situations, however, fully demonstrating how mediation processes work and interact across a broad range of actors is best left as an exercise external to the game.

10. Demonstrate definitions and common understandings of the meaning of mediation and diplomacy, and the differences between these.

This is a topic best explored outside the game, as it requires a free range of expression rather than an experiential learning environment.

11. Demonstrate types of manipulative and conditioning actions and behaviours.

It would be possible to put the player in situations within the game where they could recognise and respond to manipulative and conditioning actions and behaviours, however, listing and explaining such behaviours is better handled outside the game.



12. Demonstrate methods for establishing good relations with other mission actors and organisations as well as the local population, respecting individual national cultures.

It would be possible to have moments within the game that allow the player to demonstrate understanding - or lack of understanding - of methods for establishing good relations with other characters in culturally respectful manner.

13. Demonstrate what information is safe to share, and how.

Allowing the player to select which information to share with other characters across a range of situations may satisfy this learning outcome.

14. Demonstrate meetings as a liaison tool including:

- a. the principles and phases of meetings*
- b. the administrative process for setting meetings including safety and avoiding conflict with other actors' agendas*
- c. the what, who, when, where, why/how cycle of meetings and negotiations*
- d. the importance of not underestimating your counterpart*
- e. the importance of debriefing with team members*

It would be possible for the player to demonstrate understanding of much of this learning outcome, however, it would require an entire vignette within the game to be dedicated to the planning and execution of a meeting scenario.

15. Demonstrate methods to defuse and pacify situations in line with organisational policies and mandate.

Similar to Leadership learning outcomes #5 and #6 it would be possible to put the player in positions that allow them to demonstrate an ability to appropriately defuse and pacify situations. However, the range of actions and responses available to the player must come from a predetermined set, and as such are more likely to reflect the player's ability to select the correct response from a range of options.

16. Be able to identify the three principles of mediation and negotiation, including how to adapt mediation process to suit needs of parties and dispute.

This learning outcome is better discussed outside the game, as it requires discussion about and around a topic rather than a demonstration of skill.

17. Be able to apply mediation and negotiation skills in your role as leader including the use of a language assistant in an exercise.



This learning outcome builds on both Leadership learning outcomes #7 and #8, while including the use of a language assistant or interpreter. As for #7 and #8 it would be possible to demonstrate application of these skills in situations within the game when the player is selecting an appropriate response from a predetermined set, however, it would not be possible with a free range of expression. It would be equally possible to include interaction with an interpreter in these situations - with the same caveat with respect to free expression.

18. Be able to advise the conflict parties on negotiation processes or technical issues and support other local or international mediation initiatives.

It would be possible to include aspects of this learning outcome within the game, however, it would be better dealt with as a topic external to the game, as it requires free expression to fully demonstrate the relevant knowledge.

19. Be able to create conducive environments for both immediate response as well as mid to longer terms recovery work.

It could potentially be quite difficult to represent this within the game. It may be possible to allow the player to select from a number of sets of options for setting up a response environment, however, it is likely this is a topic better assessed outside the game.

20. (see Communication learning outcome #17)

21. Be able to manage information: define need, gather, assess, process, exchange and share relevant data in line with organisational procedures.

It would be difficult to allow the player to demonstrate their competence in this learning outcome within the game, as several of its components require free expression, which the game is not able to allow, and the rest require the management and manipulation of information, which would not make for a compelling experience within the game.

22. Be able to keep up to date with developments amongst your networks and relationships including other organisations, and the implications for ways of working with them.

It may be possible to assess this learning outcome within the game, however, it would require modelling a full set of relationships and networks for the player to remain engaged with, which would be quite expensive to implement.

23. Be able to prepare, conduct and close meetings in line with organisational and mission requirements.

It may be possible to assess this learning outcome within the game if combined with Leadership learning outcome #14, however, as with #14 this learning outcome would require a full section of



the game dedicated to conducting a meeting. Note also that this learning outcome implies a focus on mission-specific details rather than general soft-skills training.

Decision Making

1. Demonstrate methods for informing, promoting, motivating and gaining commitment to decisions within own organisation and inter-organisation.

It may be possible to allow the player to demonstrate some ability to meet the requirements of this learning outcome, however, fully showing an ability to engineer commitment to decisions would require a full range of free expression, which can not be supported by the game.

2. Demonstrate how and why you should maintain the security and confidentiality of information.

While it would be possible at times to allow the player to choose when, with whom, and how much information is shared within the game, discussion around this topic is better assessed outside the game.

3. Demonstrate the principle for the planning, evaluation and adoption of measures in crisis management.

Allowing the player to plan for and evaluate measures in crisis management would be quite difficult to represent within the game, and demonstrating principles for planning, evaluation, and adoption of measures even more so. This topic would be better assessed externally.

4. Demonstrate how and why it is important to maintain constant situational awareness.

This could be represented within the game as moments in which the player does - or does not - demonstrate situational awareness. Discussion around why maintaining constant situational awareness is important is better left as a topic for outside the game.

5. Demonstrate the role of interpreters and translators in interpreting and translating everything that is said or written, and the range of methods for working with interpreters.

While having the player work with interpreters within the game using a range of interpretation methods - e.g., spoken, written - would be possible, discussion of their roles and of the methods used is better left as a topic for assessment outside the game.

6. Demonstrate the role of social profiles and key ethical concepts in a moral decision or problem.

This topic would be better dealt with outside the game, as it requires discussion of and reflection on the player's existing knowledge.



7. (see Communication learning outcome #2)

8. (see Communication learning outcome #3)

9. Demonstrate what types of support can be provided to other actors.

It's possible the player could be put in situations within the game that allow them to demonstrate appropriate support for other characters, however, this topic would probably be better assessed outside the game as it largely requires discussion of relevant knowledge.

10. Demonstrate the range of socio-political dynamics possible in mission context.

It would be possible to provide examples of different socio-political dynamics within the game, however, allowing the player to demonstrate full knowledge of such dynamics may make more sense when handled outside the game.

11. Demonstrate the range of secure and reliable information gathering methods.

It would be possible to include use of different information gathering methods within the game by the player or other characters, however, demonstrating the full range of secure and reliable information gathering techniques would be better discussed outside the game.

12. Demonstrate the humanitarian principles and actions.

It would be possible to include a number of situations in which the player could behave (or not) in accord with humanitarian principles over the course of the game, however demonstrating understanding of and compliance with all principles might be better handled outside the game.

13. Be able to present information in a style and using terminology which will promote understanding, ownership and commitment for each recipient group and organisation.

This would not be well represented within the game as it largely relies on a freedom of expression that the game is unable to replicate.

14. Be able to analyse socio-political dynamics to identify protection risks and pro-active actions maintaining situational awareness.

It may be possible to put the player in situations within the game in which they can recognise and act on protection risks or take preemptive actions based on dynamics they are already aware of or are observing take place.

15. (see Communication learning outcome #17)



16. Be able to source and work with organisationally approved interpreters to meet identified communication needs of participants.

It would be difficult to allow players to source interpreters within the game, however, allowing the player to select and work with an appropriate interpreter for a given situation would be possible.

17. Be able to identify and apply different strategies of moral decision-making within own organisations and partner organisations.

It may be possible to put the player in a position where they are required to apply strategies of moral decision-making, however, any decisions made would have to come from a predetermined set implemented in the game, and as such, would more represent the player's ability to select a correct strategy from a subset of, rather than their sum knowledge. Identification of and discussion around strategies for moral decision-making is better left as a topic for assessment outside the game.

18. Be able to agree and follow the procedures and limits relating to the exchange of information gathered and confidentiality.

As for Decision Making learning outcome #2, while the player may be able to demonstrate correct handling of confidential information, discussion around this topic is better assessed outside the game.

19. Be able to facilitate internal and external community discussions on what the different protection types are doing to help and assist, and how they can improve and strengthen these.

This would not be well represented within the game as facilitating discussion requires free expression that the game won't be able to provide. Discussion of the topic would be better handled outside the game.

Stress Management

1. Demonstrate how to maintain psychological and physical health and well being.

Allowing the player to make appropriate choices for their character's health within the game would be possible, however, allowing the player to demonstrate knowledge of the correct choice in a wider range of situations would be more difficult.

2. Demonstrate own values and beliefs and potential ethical dilemmas and implications for your own practice.



This would be better as a reflective exercise external to the game.

3. Demonstrate relevant theories relating to group and one-to-one dynamics.

This topic would be difficult to explicitly demonstrate within the game, as it requires free expression to fully explore the relevant knowledge.

4. (see Communication learning outcome #2)

5. (see Communication learning outcome #3)

6. Demonstrate different forms of stress and stress indicators, and the importance in addressing these when detected in self and others. Including e.g. housing discomforts, food etc.; travel delays; lack of safety and security; health hazards; immobility, inactivity, lack of exercise; problems at home, missing family and friends; witnessing violence or tragedy; inability to make a difference, lack of progress, apathy among responders or survivors; noisy or chaotic environment; malfunctioning equipment; no rest of relaxation periods; unclear or constantly shifting tasks, unrealistic expectations; media attention at your location; non-recognition of work or hostility towards your efforts; pressure to achieve; unsupportive or difficult colleagues or superiors; anxiety about the mission and your skills to respond; lack of resources or limited control of situation; cultural and linguistic differences; permanent availability and constant demands from HQ.

It would be possible to have the player's character experience or encounter some of these stresses and stress indicators within the game, however, addressing them all would require this learning outcome to become the game's main focus.

7. Demonstrate the types of acute traumatic stress: physical reactions, cognitive reactions, behavioural reactions, emotional reactions, spiritual reactions. The types of trauma: avoidance and emotional numbing symptoms; emotional arousal symptoms; vicarious trauma; addiction to trauma.

As with Stress Management learning outcome #6 it would be possible to have the player encounter or deal with some traumas or traumatic stresses, however, it would not be possible to cover everything listed above within the game.

8. Demonstrate how to support others deal with stress.

It would be possible to have the player's character interact with and support another character through a stressful situation in the game. However, the player's support and conversation options would be limited by the game's set of implemented responses, and as such may not fully represent their ability to handle this kind of situation.

9. Demonstrate the importance of psychological first aid.



It would be possible for the player's character to deal with a situation requiring them to administer or oversee the administration of psychological first aid, however, discussing its importance is best left for assessment outside the game.

10. Be able to demonstrate the capacity to be empathic and understand another person's experience from their perspective.

It may be possible to illustrate this within the game, either as the player directly empathising with the character they play, or through their character's responses to other characters within the game.

11. Be able to demonstrate that you have the capacity to manage and make decisions and take appropriate action in the face of known fears, risks and uncertainty when professionally required to do so.

It would be possible for the player to demonstrate some aspects of this, however, fears, risks, and uncertainties within the game will always be less stressful than any real life situations, so decisions made or actions taken might not accurately represent the player's ability to operate under pressure.

12. (see Communication learning outcome #17)

13. Be able to evaluate process of change within self, and demonstrate openness to acquiring and integrating new knowledge about yourself.

This would be better left as a reflective exercise outside the game.

14. Be able to address forms of stress in mission including cumulative stress and trauma.

It would be possible within the game to allow the player to demonstrate knowledge as to how this should be handled, however, enabling the player to demonstrate an ability to address cumulative stress or trauma would be difficult.

15. Be able to minimise stress including acute traumatic stress by acknowledging when to seek help.

It would be possible to allow the player to demonstrate knowledge as to how and when this should be handled within the game, however, allowing the player to demonstrate a reflective ability to acknowledge when to seek help in real life would be difficult.

16. Be able to support colleagues with own and other organisations to deal with strong emotions.

It would be possible for the player to interact with and attempt to support other characters experiencing strong emotions, however, any interactions would be limited by the set of responses implemented by the game.



17. Be able to develop an effective understanding of a range of stress management techniques, and implement these as required.

While allowing the player to select appropriate stress management techniques within the game for different situations would be possible, fully expressing an understanding of all such techniques would be better demonstrated outside the game.

Cultural Awareness

1. Demonstrate how to analyse the intersection of diverse organisational and national cultures related to your mission.

It would be possible to show examples of diverse organisational and national cultures within the game, however, their discussion and analysis would be best handled outside the game environment as a freedom of expression not available within the game would be required.

2. Demonstrate the power dynamics within internal and external communities including inter-organisation especially due to gender, caste, class, ethnicity, and disability which may make it difficult to hear some voices/opinions.

Illustrating such power dynamics and difficulties in hearing all voices within the game would be possible, however, a comprehensive discussion of same would be better left as an exercise outside the game.

3. Demonstrate the range of tools used in encounters where diversity, tensions and conflicts can be expected to arise and a clash of cultures is often inevitable.

It would be possible to have the player navigate such situations within the game, potentially demonstrating some techniques useful for handling these types of encounters. A demonstration of the full range of tools available would make more sense as an exercise external to the game.

4. (see Communication learning outcome #2)

5. (see Communication learning outcome #3)

6. Demonstrate the importance of recognising that missions bring heterogeneous personnel into contact with a range of in-mission organisations and local people who often draw upon cultural background different from those of own organisation and staff.

It would be possible for the player to interact with and explain the importance of this recognition to other characters within the game, or for the game itself to illustrate and recognise such cultural differences. An in-depth reflective discussion, however, would be better handled outside the game.

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7. Demonstrate systems of building trust, and the importance of doing so for success of the mission.

It would be possible to allow the player to demonstrate use of such systems by building trust with other characters/organisations within the game to the benefit of the mission. A comprehensive discussion of such systems would be better assessed externally.

8. Identify and discuss the types of power relations within different contexts in terms of the impact on gender inequality.

It would be possible for the game to include examples of power relations impacting gender equality, however, discussion and reflection on this topic is better handled outside the game.

9. Demonstrate how culture, gender and beliefs can affect what is perceived as 'acceptable' and 'non-acceptable' behaviour (such as it may be seen to be more acceptable for men to be assertive than women).

It would be possible for the game to demonstrate examples of this type of inequality in different situations, however, discussion around this learning outcome is best dealt with externally.

10. Demonstrate how the worker's own culture, gender and beliefs affect the way that they view the behaviour of others and why it is important to recognise and challenge this.

To demonstrate how the player's own culture, gender, and beliefs affect the way they view the behaviour of others would require a reflective discussion outside the game. However, it may be possible to illustrate how a person's culture, gender, and beliefs can affect the way in which they view the behaviour of others through the player's character within the game - e.g., the player's character may hold certain views or make certain judgements based on their beliefs, gender, or culture which are commented on or challenged by another party.

11. Demonstrate sources of information that provide realistic overview of the full range of in-mission attitudes including that of other actors and organisations as well as local attitudes.

It would be difficult to include this in the game as it requires access to real-world resources, an emulation of which would be costly to implement within the game.

12. Demonstrate a range of engagement styles to use with different actors.

It would be possible to include use of different engagement styles within the game, however, discussion of the styles, their advantages and disadvantages, would be better handled outside the game.



13. Be able to build bridges of trust between yourself, your organisation, other mission organisations and the host community, including:

- a. review anthropological and cultural guides about the different peoples you will be interacting with beforehand*
- b. analyse own cultural background because your nationality and country of origin may have a historical footprint in colonialism and occupation*
- c. learn about other culture's customs and history, whilst acquiring a deeper understanding of your own*
- d. learn some basic phrases in the range of languages likely to be used on-mission to reflect interest in the cultures of other actors and your respect for individuals*

While it would be possible to include this within the game, it is a heavily research oriented learning outcome, and would not be an interesting gameplay experience. It may be possible to illustrate the importance of some of the listed points within the game and to allow the player to build trust between their character and other characters or organisations.

14. Be able to describe how cultural differences and different kinds of diversity might be evident in the mission environment between organisations, and in the host country, and how to show respect for this in a multicultural peacekeeping environment.

It would be possible to allow the player opportunities to show respect for cultural differences and diversity in a multicultural peacekeeping environment within the game, however, describing how such differences might be evident would be better handled outside the game.

15. (see Communication learning outcome #17)

16. Be able to take action to maintain calmness and safety in the working environment which values individuals with as little restriction of action as possible to encourage meaningful interactions.

It may be possible to touch on this learning outcome within the game, however, it would be difficult to fully illustrate without making it one of the game's main themes.

17. Be able to engage with relevant leaders, powerbrokers and personalities to foster good relations between organisations and with local populations.

It may be possible to touch on this within the game, however, appropriately illustrating the full complexity behind building relevant connections, gaining trust, and knowing how and when to interact would require dedicating a large portion of the game to only this topic.

18. Be able to work with other organisations to strengthen capacity to respond to community-identified protection needs.



It would be possible to include a situation within the game in which the player's character was required to cooperate with other organisations to respond to this kind of need.

19. Be able to analyse key actors directly or indirectly involved or who have influence over a particular problem including the role of power relations.

It might be possible to include a situation within the game whereby the player must analyse who to interact with to solve a problem. However, this analysis would not accurately reflect the complexity of such analyses in a real-life scenario, as the game can only implement a discrete set of characters with whom the player might interact.

Gender Awareness

1. Demonstrate knowledge of theories of personality and behaviours.

This type of discussion is best left as an exercise external to the game.

2. Demonstrate theories of identity and self esteem, and feminist theories.

This type of discussion is best left as an exercise external to the game.

3. Demonstrate theories/good practice relating to the use and misuse of power and discrimination.

While illustrative elements of this learning outcome could be included within the game, discussion of theories is better left as an external exercise.

4. (see Communication learning outcome #2)

5. (see Communication learning outcome #3)

6. (see Communication learning outcome #5)

7. (see Cultural Awareness learning outcome #9)

8. (see Cultural Awareness learning outcome #10)

9. (see Cultural Awareness learning outcome #2)

10. Demonstrate the concept of power relations.

This would be better handled as a discussion outside the game.



11. Understand and explain the role and impact of traditional practices on self, own organisation, other organisations and wider society in terms of how it perpetuates gender stereotyping and inequality.

It would be possible to include examples of this within the game, however, a broader discussion of such practices with respect to perpetuating gender stereotypes would be better held outside the game.

12. (see Cultural Awareness learning outcome #8)

13. Demonstrate power relations include but are not limited to class, race and sexism.

It would be possible to include examples of these kinds of power relations within the game, however, an in-depth discussion of this topic would be more appropriate as an external exercise.

14. (see Stress Management learning outcome #10)

15. Be able to build rapport and communicate in a professional, timely, patient and appropriate manner.

It would be possible to allow the player to interact with multiple characters in varying situations over the course of the game to demonstrate their ability to communicate appropriately. It should be noted, however, that this may not fully and accurately represent the player's ability to communicate, as they will in each case be selecting from a discrete set of interactions provided by the game.

16. (see Communication learning outcome #17)

17. (see Decision Making learning outcome #12)

18. (see Cultural Awareness learning outcome #14)

19. Be able to analyse the activities, motives and interests of actors on the problem, as well as the relationship between actors.

It should be possible to include opportunities for the player to analyse situations within the game before following an appropriate action based on their reading of the scene. However, the game can only make a discrete set of actions available to the player, so it is likely the player's choice will be influenced by these actions.

20. Be able to analyse the role of institutions in shaping the attitudes and perceptions of women, men, girls and boys.



It may be possible to include illustrative examples of this within the game, however, a discussion and analysis of this topic would be better handled externally.

21. Be able to maintain fairness for all parties involved in the process.

It should be possible to include multiple situations within the game that allow the player to act fairly for all parties involved in a process, however, it should be remembered that all of the player's in-game actions must be chosen from a discrete set implemented by the game for a given situation.



8. Annex B: Table of Ranked Learning Outcomes

The following table contains the full set of learning outcomes, labeled as COM (COMmunication), COO (COOrdination), etc., as per the first three letters of their general category followed by their number within that category. Where a learning outcome is a duplicate of one covered in a previous set, it has been omitted.

Learning outcomes have been assessed under the criteria laid out in sections 2.3 and 2.4 of this document, with values filled in where appropriate. A value of 1 is an “affirmative”, so a learning outcome with a 1 in its planning and decision making field includes elements of planning and decision making. A value of 0.5 is a “partial”, so a learning outcome with a 0.5 in its cultural awareness field at least partially requires or includes soft skill development relating to cultural awareness. A value of 0 or no value is a “negative” or not applicable so no value in a learning outcome’s quiz field means that learning outcome either has no quizzing element, or for its inclusion in the game the its quizzing aspect can be ignored.

The only field operating under different semantics is the implementation complexity field, where a value of 1 is a default complexity, 0.5 a more complex implementation value, and no value indicating too complex or not appropriate for implementation.

A score has then been calculated, balancing the appropriate elements of the learning outcome, checking for possibility, and applying a priority and complexity based multiplier. Resulting learning outcome scores greater than or equal to 2 are deemed worth considering for inclusion in the game.

Project number: 700670

Project Acronym: GAP

D4.1. Report on Learning Outcomes for Gamification



	Good				Bad			Impossible		Priority				Suitability
LO	Empathising	Scene Reading	Planning & Decision Making	Experiential or Feedback Opportunity	Quizzing	Information Management	Mission Specific Details	Free Expression or Action	Complex Systems	Trust, Empathy, Communication, Cooperation	Cultural Awareness	Gender Awareness	Impl. Complexity	
COM 1	0.5			1	1			0.5		1			0.5	1
COM 2					1							1	1	0
COM 3						1			1			1		0
COM 4		1		1				0.5		0.5			1	1.5
COM 5	0.5	1		1				0.5		0.5	1		0.5	2.2
COM 6		0.5		0.5				0.5					1	0.5
COM 7		1	0.5	1				0.5		1	0.5		0.5	2.2
COM 8				0.5				1		0.5				0
COM 9				0.5		1		0.5					1	-0.25
COM 10			0.5		1			0.5			0.5		1	0.25
COM 11						1		0.5					1	-0.5
COM 12	1	1		1				0.5		1			1	2.5
COM 13	0.5	1		1				0.5		1			1	2.25
COM 14	0.5	1		1				0.5		1	0.5	0.5	1	3.25
COM 15				0.5				1		0.5				0
COM 16				0.5		0.5		0.5		0.5			1	0.5
COM 17		1		1				0.5				1	1	2
COM 18		0.5		0.5				0.5		0.5			1	1
COM 19						1		1						0

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LO	Empathising	Scene Reading	Planning & Decision Making	Experiential or Feedback Opportunity	Quizzing	Information Management	Mission Specific Details	Free Expression or Action	Complex Systems	Trust, Empathy, Communication, Cooperation	Cultural Awareness	Gender Awareness	Impl. Complexity	
COO 1	0.5	0.5		0.5				0.5		0.5			1	1.25
COO 2		0.5		0.5				0.5					1	0.5
COO 5	0.5				1					0.5			1	0
COO 6	0.5				1					0.5			1	0
COO 7			1	0.5						0.5			0.5	1.6
COO 8								0.5		0.5	0.5		1	1
COO 9			0.5	0.5				0.5		0.5			1	1
COO 10					1			1						0
COO 11	0.5	1	0.5	0.5				0.5		1			1	2.25
COO 12					1		1	1						0
COO 13	0.5	0.5		0.5				0.5		0.5			1	1.25
COO 14	0.5	0.5				1		0.5		0.5				0
COO 16	0.5							1		0.5				0
COO 17	0.5	0.5		0.5				0.5		0.5			1	1.25
COO 18	0.5	0.5		0.5				0.5		1	1		1	2.75
COO 19	0.5			1						1			0.5	2
COO 20								1		1				0
COO 21			1					0.5		0.5			1	1
COO 22							1	1		0.5				0
COO 23								0.5		0.5	0.5		0.5	0.8
COO 24							1	1						0
COO 25			1	0.5				0.5					1	0.75

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Project number: 700670

Project Acronym: GAP

D4.1. Report on Learning Outcomes for Gamification



	Good				Bad			Impossible		Priority				Suitability
LO	Empathising	Scene Reading	Planning & Decision Making	Experiential or Feedback Opportunity	Quizzing	Information Management	Mission Specific Details	Free Expression or Action	Complex Systems	Trust, Empathy, Communication, Cooperation	Cultural Awareness	Gender Awareness	Impl. Complexity	
LEA 1					1						1	1	1	1
LEA 2								1						0
LEA 5		1	0.5	0.5	1			0.5					1	0.5
LEA 6		1	0.5	0.5	1			0.5					1	0.5
LEA 7		1	0.5	0.5				0.5					1	1
LEA 8		1	0.5	0.5				0.5					1	1
LEA 9		1	0.5	0.5	1			0.5					1	0.5
LEA 10					1			1						0
LEA 11		1		0.5				0.5					1	0.75
LEA 12	0.5	1	0.5	0.5				0.5		0.5	1		1	2.75
LEA 13			1	0.5				0.5					1	0.75
LEA 14		1	1	1				0.5					0.5	1.2
LEA 15	0.5	1		0.5				0.5		0.5			1	1.5
LEA 16					1			1						0
LEA 17	0.5	1	0.5	0.5				0.5		0.5	0.5		1	2.25
LEA 18			0.5		1			1		0.5				0
LEA 19		0.5	1					0.5					0.5	0.6
LEA 21						1		0.5	0.5				0.5	-0.2
LEA 22						1			1	0.5				0
LEA 23			1	0.5				0.5					0.5	0.6

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	Good				Bad			Impossible		Priority				Suitability
LO	Empathising	Scene Reading	Planning & Decision Making	Experiential or Feedback Opportunity	Quizzing	Information Management	Mission Specific Details	Free Expression or Action	Complex Systems	Trust, Empathy, Communication, Cooperation	Cultural Awareness	Gender Awareness	Impl. Complexity	
DEC 1								1						0
DEC 2					1			1						0
DEC 3			0.5		1			1						0
DEC 4		1	0.5	0.5				0.5					1	1
DEC 5	0.5	0.5		0.5				0.5		1	1		0.5	2.2
DEC 6					1			1						0
DEC 9					1			1		0.5				0
DEC 10					1			1						0
DEC 11														0
DEC 12	0.5			0.5				0.5		0.5			1	1
DEC 13								1						0
DEC 14		1	1	0.5				0.5					1	1.25
DEC 16	0.5		1	0.5						0.5			1	2.5
DEC 17			1	0.5	1			0.5					1	0.25
DEC 18								1						0
DEC 19					1			1						0

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D4.1. Report on Learning Outcomes for Gamification



	Good				Bad			Impossible		Priority				Suitability
LO	Empathising	Scene Reading	Planning & Decision Making	Experiential or Feedback Opportunity	Quizzing	Information Management	Mission Specific Details	Free Expression or Action	Complex Systems	Trust, Empathy, Communication, Cooperation	Cultural Awareness	Gender Awareness	Impl. Complexity	
STR 1	1	1	0.5	1				0.5		0.5			1	2.25
STR 2								1						0
STR 3								1						0
STR 6	1	1	0.5	1				0.5		0.5			1	2.25
STR 7	0.5	1	0.5	1				0.5					1	1.5
STR 8	1	1	0.5	1				0.5		0.5			1	2.25
STR 9	0.5	0.5	0.5	1				0.5		0.5			1	1.75
STR 10	1	1		1				0.5		1	0.5	0.5	0.5	2.8
STR 11		1	1	1				0.5					1	1.5
STR 13								1						0
STR 14	0.5	0.5		1				0.5		0.5			1	1.5
STR 15	0.5	0.5		1				0.5					1	1
STR 16	1	0.5		1				0.5		0.5			1	1.75
STR 17		1	1		1			0.5					1	0.5

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D4.1. Report on Learning Outcomes for Gamification



	Good				Bad			Impossible		Priority				Suitability
LO	Empathising	Scene Reading	Planning & Decision Making	Experiential or Feedback Opportunity	Quizzing	Information Management	Mission Specific Details	Free Expression or Action	Complex Systems	Trust, Empathy, Communication, Cooperation	Cultural Awareness	Gender Awareness	Impl. Complexity	
CUL 1		1		1	0.5			0.5			1		1	1.75
CUL 2		1		1	0.5			0.5			1	1	1	2.75
CUL 3	0.5	1	0.5	1	0.5			0.5			1		1	2.25
CUL 6	0.5	1	0.5	1				0.5			1	1	1	3.5
CUL 7	1	1	0.5	1				0.5		1			1	2.75
CUL 8	1	1	0.5					0.5				1	1	2.25
CUL 9		1						0.5			1	1	1	2.5
CUL 10	1	1		1				0.5			1	1	1	3.5
CUL 11						1		0.5			1			0
CUL 12		1	1	1				0.5		1			1	2.5
CUL 13						1		1		1				0
CUL 14	0.5	1	0.5	0.5				0.5		0.5	1	1	1	3.75
CUL 16		1						0.5			1		0.5	1.2
CUL 17		1	1	0.5				1		1	0.5		0.5	0
CUL 18	0.5	0.5	1	0.5				0.5		0.5	0.5		0.5	1.8
CUL 19	0.5	1	0.5	0.5				0.5		1	1		0.5	2.6

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	Good				Bad			Impossible		Priority				Suitability
LO	Empathising	Scene Reading	Planning & Decision Making	Experiential or Feedback Opportunity	Quizzing	Information Management	Mission Specific Details	Free Expression or Action	Complex Systems	Trust, Empathy, Communication, Cooperation	Cultural Awareness	Gender Awareness	Impl. Complexity	
GEN 1					1			1						0
GEN 2					1			1						0
GEN 3	0.5	1	0.5	0.5				0.5		0.5	0.5	1	1	3.25
GEN 10					1			1						0
GEN 11	1									0.5	1	1	1	3.5
GEN 13	0.5										0.5	1	1	2
GEN 15		1	1	1				0.5		0.5	0.5	0.5	1	3
GEN 19	0.5	1	0.5	1				0.5			1	1	1	3.5
GEN 20		0.5		0.5							1	1	1	3
GEN 21	1	1	1	0.5				0.5		0.5	0.5	0.5	1	3.25

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