

## **AEsOP: Applied Engagement for Community Participation**

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## Chapter 12: AEsOP – Applied Engagement for Community Participation

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**Abstract.** *AEsOP (Applied Engagement for Community Participation) is a serious game that was developed as part of a study to examine whether interactive video games can have a quantifiable positive impact on levels of civic engagement with public authorities. The game was created with the objective of providing a tool that can be used to engage with communities including those that traditionally are underrepresented, lack ‘voice’ or feel underacknowledged by police and perhaps where trust relationships with public authorities may need improvement. The game was thus developed with a double focus: as engagement tool as well as a setting for research. This chapter discusses the conceptual thinking that went into the game as well as how the practical challenge of improving community-police relationships informed the design of the game.*

**Keywords:** *serious games, community policing, community engagement, citizen participation, crime prevention, trust*

### 1 The Premise of AEsOP

There has been a renewed interest in placing citizens at the heart of resolving local safety and security issues rather than leaving them until they require direct police intervention. This is being addressed by the police through community policing (CP) strategies (Cordner, 2014). Several definitions of CP, its purpose and scope exist, but the below is a common perspective on the concept:

*“Community policing is the delivery of police services through a customer-focused approach, utilising partnerships to maximise community resources in a problem-solving format to prevent crime, reduce the fear of crime, apprehend those involved in criminal activity, and improve a community’s quality of life.” (Morash and Ford, 2002)*

Traditional CP approaches range from increasing police visibility, improving lines of communication between police and communities, building partnerships with other organisations and – most importantly – encouraging communities to ‘help themselves’ to prevent crime by providing advice, raising awareness and forming neighbourhood watch groups (Watson et al., 1998). But many of these strategies are no longer practical given the growing strain on policing resources and the diversification of communities.

Work conducted as part of the Unity project<sup>1</sup> has indicated that the availability of technology itself does not necessarily drive engagement (Brewster et al., 2018). However, existing research has identified many potential benefits of serious games across application domains (see for instance, Chapters 9-12) as well as possible improvements in encouraging civic participation by employing gamification approaches (Devisch et al. 2016). Due to the popularisation and near ubiquity of information and communication

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<sup>1</sup> Project funded under the EU Horizon 2020 Research and Innovation programme, grant agreement no. 653729 (May 2015-April 2018); for more information see [www.unity-project.eu](http://www.unity-project.eu)

technologies (ICTs), and here particularly smartphones and tablets, serious games provide a vector – if not a direct solution – through which initiatives can instil a culture of proactive engagement with their intended audiences. Thus, developing serious games that can be consumed in a mobile format provides an opportunity to reach a wide audience in a highly accessible way.

The intention of *AEsOP* (Applied Engagement for Community Participation) was to put forward the case for creating a serious game as a tool to assist in overcoming factors that have traditionally served to block engagement between police, individual citizens and wider communities.

## 2 Background to Community Policing

At its core, CP is a strategy that seeks to establish and improve the relationships that exist between citizens, communities and the police in order to reduce crime and disorder (Cordner, 2014). In its modern form, community policing aims to empower communities by targeting the need to improve the relationship and level of engagement that citizens and police have with each other. It offers the police an alternative to traditional, often reactive forms of law enforcement – a proactive philosophy that is more responsive to the wants and needs of the community.

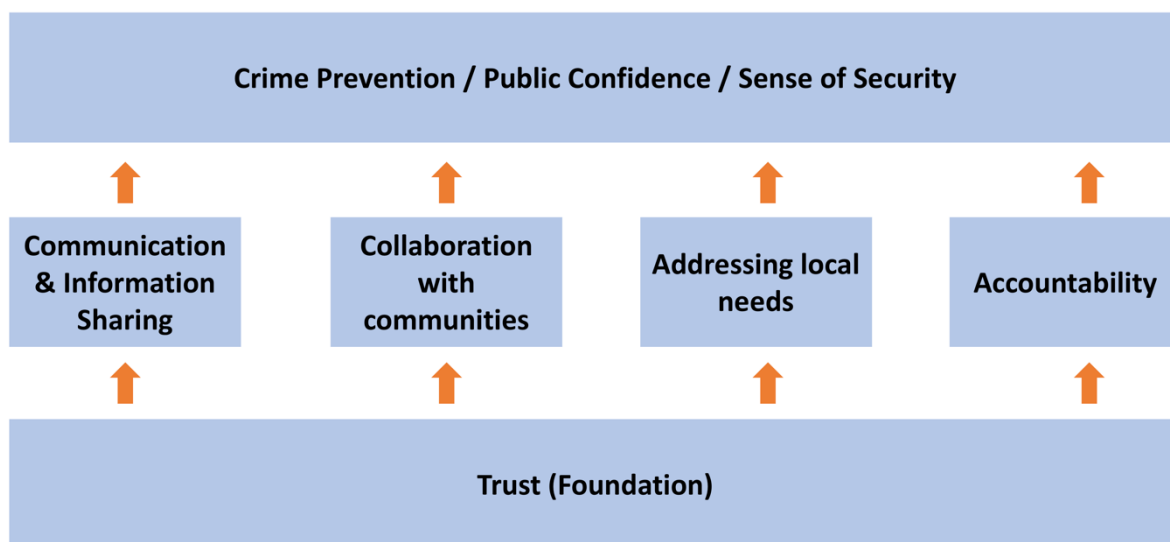
It has been posited that CP can bring several potential benefits. These include improved relations between the police and public, increased police job satisfaction for police officers, community mobilisation, an overall reduction in crime and a reduction in fear of crime (Segrave and Ratcliffe, 2004). Community policing represents a style of policing that, on the surface at least, the public seem to want. It places the community at its core and emphasises its receptivity to public needs, promotes genuine problem solving and endeavours to empower communities to help themselves (Lloyd and Foster, 2009).

The challenge of working with communities that are considered disadvantaged or marginalised requires organisational and cultural changes to foster engagement with the public, and ultimately empower communities to participate in efforts to tackle local crime-related problems (Cameron and Laycock, 2002). At the same time, CP is not a ‘one-size-fits-all’ model or template that can be cut and pasted to solve all of society’s ills. Also, police officers are often ill-equipped to overcome the unwillingness of communities to work with them and to foster the working relationships, which are so fundamental to the success of the approach (Sarre, 1997).

A strategy for overcoming such difficulties may lie in changing the orientation of community policing to empower communities by assigning greater responsibility to citizens, aiming to make them more accountable and to give them greater agency to address problems in their respective neighbourhoods (Sherman, 1998). Historically, however, this has proven a challenge for police forces, and an area in which they have faced criticism leading to the perception that police have a fundamental unwillingness, or in some cases, a lack of skill or knowledge in working with diverse communities (Bain et al., 2014). It is through community policing schemes that the police have aimed to close this gap.

### 3 From Unity to AEsOP

Unity was an EU funded project under Horizon 2020 program (running from May 2015 to April 2018) that aimed to better understand the relationship between police and their communities realised through a range of ICT solutions. The empirical work conducted as part of the Unity project (which *AEsOP* formed part of) established that despite varying definitions of CP across Europe, there remain several common themes (Bayerl et al., 2016). The consolidation of these themes grew into six core principles (referred to as ‘pillars’) of CP, illustrated in **Figure 1**. Within these principles, trust emerged as a vital prerequisite for citizen participation and engagement with the police: Without trust, there is no communication, no information sharing, no collaboration and no accountability – the following four pillars of CP. Finally, without these underpinning pillars, it becomes nearly impossible to create a sense of security within communities, and ultimately to prevent crime – the final pillar of CP. In *AEsOP*, these six pillars were key concepts guiding the game’s development.



**Figure 1: The six pillars of community policing (redrawn from Vickers et al., 2018)**

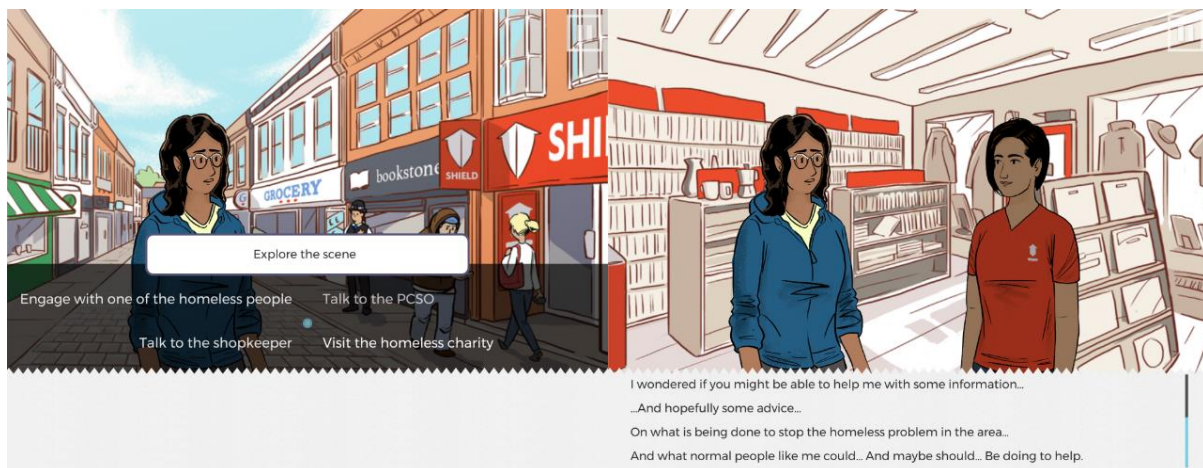
Within the Unity project itself, the concept of CP was conceptualised using realisations and scenarios from multiple European perspectives. Throughout the project’s engagement with citizens and police forces, a clear need emerged to bridge the gap between the direct facilitation of CP enabled through the project’s mobile communications tools and the need for a softer approach, whereby police could develop a better understanding of communities and communities a better understanding of the aims and outputs of a community-based approach to policing. It is this gap that *AEsOP* attempts to bridge.

### 4 Applied Engagement for Community Participation (AEsOP)

*AEsOP* was created to examine whether gamification – and games in general – could serve as a way to engage with local audiences about crime issues within their communities. The game is premised on a simple format that borrows from the visual novel and, to a lesser extent, adventure game genres. The ultimate objective of the game is to leave the player with:

- A basic understanding of the concept of community policing, its core principles, its aims and its overarching objectives
- An appreciation of the role and inputs of a diverse set of stakeholders and actors implicated in CP, including police and different community groups and the roles they are able to facilitate within the community

In order to achieve this, *AEsOP* presents players with five scenarios, each based around a different problem that could be resolved or improved through the application of CP. The game implements several branching narratives (similar to a decision tree), giving the player a degree of choice in how each story progresses. Using these narratives, the player is guided through each story using character-based dialogues (see **Figure 2, right side**). As the stories play out, the player is presented with contextual choices that allow them to take different actions, each of which work towards addressing the challenges they encounter (see **Figure 2 left**). Some choices permanently impact the direction of the story, whereas others return to a central hub where the other options can be explored, rewarding the player's curiosity to engage with a range of local community stakeholders.



**Figure 2: Action choices (left) and character dialogues (right)**

The game adopts rich hand-drawn illustrations in a cartoon style as a means to enhance accessibility and engage diverse groups, including those that are often seen as under-represented, marginalized and socially or digitally excluded. A number of screenshots from the game's scenarios are presented in **Figure 33**. *AEsOP* leans on interaction mechanics that require no prior knowledge of or familiarity with established videogame principles and contains no fail-states. *AEsOP* is designed to leave audiences with a basic awareness about the principles associated with CP and the potential roles of citizens, community groups and police in order to foster local collaboration and engagement.



**Figure 3: Selected screenshot of AEsOP scenarios**

#### **4.1 Community Policing Scenarios**

At the outset, twelve potential scenarios were identified through the Unity project and a wider analysis of the CP literature and real-world case studies, as being candidates for implementation within the game. For the game, five scenarios were implemented:

1. Modern slavery based around forced labour in a hand carwash
2. Domestic abuse focusing on intimate partner violence
3. Illegal parking and speeding outside a school
4. Begging and vagrancy
5. Anti-social behaviour and street drinking

These were selected deliberately as they represent a diverse range of issues from high-priority serious and organised crime threats such as modern slavery through to pettier, but visible issues such as illegal parking and speeding outside schools. Additional scenarios considered, but not implemented at this time, are based around acquisitive crime, drug use, mental health concerns, immigration and social tensions, the traveller community, rural crime and anti-social behaviour. A key point to note at this stage is that, while Unity was a project considering European-wide community policing approaches, the *AEsOP* game as a proof-of-concept focuses on UK-centric scenarios and issues.

#### **4.2 Game Development and Mechanics**

In the design and inception phases, it was decided that the game should be engaging for players with a low access barrier to encourage participation from as wide a spectrum of end users as possible (including those of different genders, national backgrounds, socio-economic backgrounds and age



groups). This meant that the interface needed to be as simple and intuitive as possible, whilst allowing the game to be accessed through several channels (browser, iOS and Android applications).

During the development, specific care was taken to ensure equal representation of different groups and communities in the game, with additional considerations made to ensure that specific demographics are not placed in stereotypical or misrepresentative roles such as women playing the role of victims, white males as 'saviours' or ethnic minorities as criminals.

The game was further explicitly designed to be expandable so that additional scenarios can easily be added, allowing the game to evolve and represent new and pervasive community issues over time. As the tools to create scenarios are kept simple, the effort in developing and scripting additional scenarios requires little technical knowledge, allowing them to be added to game with relative ease.

As an entry point to the game, players are presented with a short interactive tutorial introducing the core interaction mechanics and core concepts. During the tutorial, players are encouraged to adjust the game settings such as the speed in which the text appears on the screen. Users can thus easily choose a setting that suits their reading speed, also accommodating players with disabilities, lower reading skills or less familiarity with the English language. Once a scenario begins, the only interaction required from users is to make choices when prompted. This is achieved by clicking a mouse or tapping touch-screen buttons on the device screen to make dialogue choices, progress and dictate the direction of the stories contained within each scenario.

### 4.3 Underlying Architecture

*AEsOP* was developed using a simple architecture that combined the games development platform Unity3D<sup>2</sup> with the scripting tool ink.<sup>3</sup> Ink is a simple mark-up language designed to support fast creation of the gameplay in each scenario. Using ink required no previous technical knowledge and the scripts themselves contain all of the dialogue, decision questions and their consequences (including where to branch the story to and what effect each decision has on the six pillar score explained below). Each of the script formats were customised to allow the background and foreground images to be set and simple animations for foreground characters to be authored for aspects such as changing facial expressions. While ink provided a simple and easy-to-use means of managing the game's scripting, Unity 3D offered a robust and commercially tested game engine to run the game with built-in tools that allowed it to be optimised and easily compiled for release across a broad spectrum of user devices.

*AEsOP* is linked to an underlying database that captures and maintains a record of the decisions made by each player during their time with the game including anonymised demographic information submitted voluntarily by players during sign-up. As *AEsOP* is designed as both a standalone game and one which could be played as part of a facilitated focus session, users' data can also be linked to a specific session thus allowing the facilitator to explore the decisions – without individual user-attribution – made by a given group in real-time. This encourages open discussions and feedback on player choices and the impact they have. Such information could also be used as part of working sessions with community

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<sup>2</sup> <https://unity.com/>

<sup>3</sup> <https://www.inklestudios.com/ink/>

groups, in schools and other events to engage citizens with local issues and explore ways for them to more actively contribute in their local communities.

#### 4.4 Gameplay

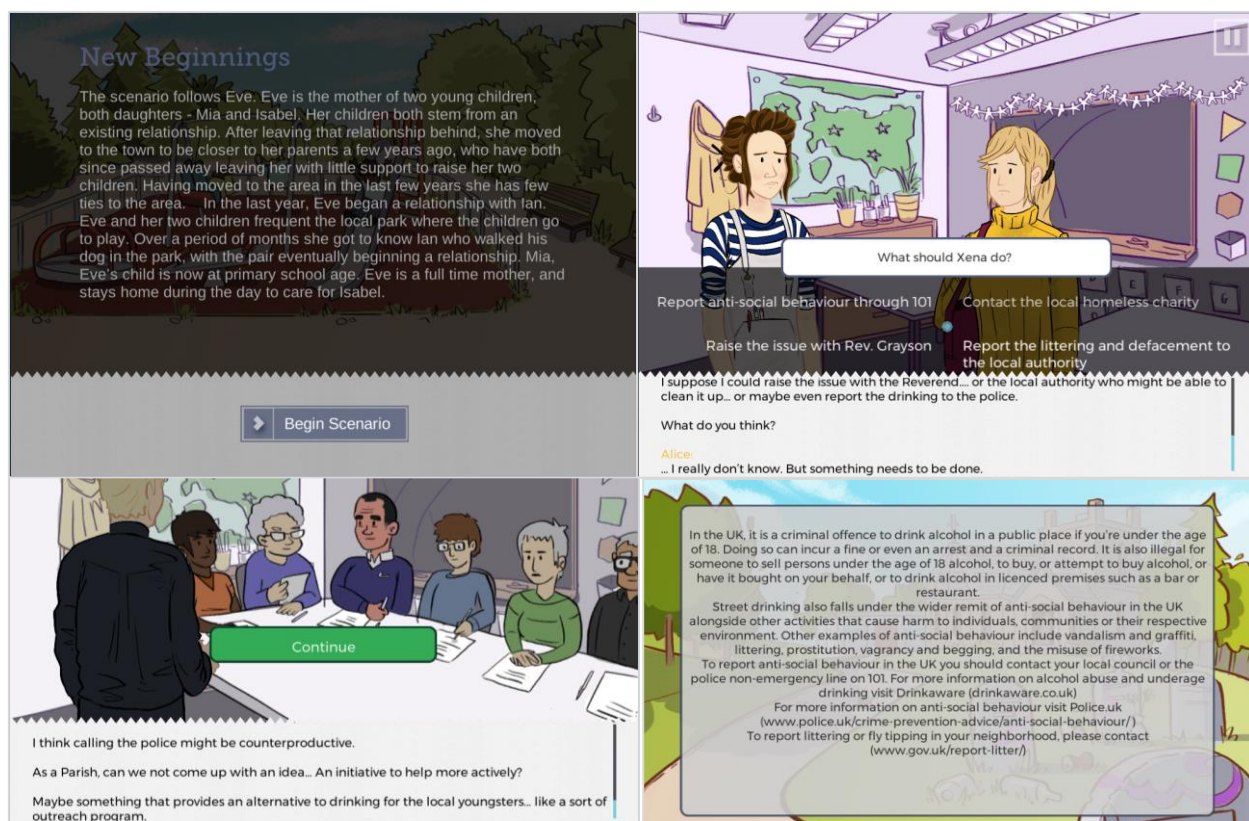
As the user enters the game, they are presented with a map screen from which to select a scenario. The map screen represents a fictional town (see [Figure 4](#)), on which each location is linked to one of the scenarios. The locations are designed to visualise the setting of each scenario and act as buttons, which can be pressed to begin the underlying scenario. After each scenario the player returns to the map screen and can then enter a new scenario.



**Figure 2: Scenario selection map**

Upon entering a scenario, the player is presented with a short paragraph of background text to set the scene and to provide context and exposition to the story (see [Figure 3, top left](#)). In some scenarios the issue is made clear in the introduction, whereas in others it is slowly revealed to the player based on their dialogue choices and the community actors with which the player selects to engage with. While playing a given scenario, the player sees dialogue text between the characters on-screen (see [Figure 3, top right](#)). The player follows along with the scenario text, which includes both descriptive content and dialogue between the characters. As the dialogue concludes the player is faced with a question about the decision to take next (see [Figure 3, bottom left](#)). These decisions often involve the player asking questions to other characters in the game, the opportunity for actions to resolve issues (such as contact police or community stakeholders) or the possibility to speak with additional actors in each scenario to uncover more information about the situation they are faced with. As the player moves through the scenario, they collect 'pillar points' (see next section). When the scenario draws to a conclusion, the player is presented with further information about support services or the implications of the particular crime type they have faced (see [Figure 3, bottom right](#)), often encouraging them to seek out further information or directing them to advice on appropriate courses of action should they come across a similar situation in real life.





**Figure 3: Top left: the scenario entry text; top right: a decision point within the game; bottom left: a community based outcome from a chosen decision; bottom right: scenario end text providing further information**

#### 4.5 Role of the Six Pillars

When players are asked to make decisions during the course of the game, they are awarded a score against each of the six pillars of community policing. Each decision a player makes is linked to the six pillars of community policing with a player receiving pillar points depending on the action they chose. For example, if the player chooses to call the police to report concerns about potential domestic abuse of a neighbour, their 'accountability' score will increase; whereas electing to speak with additional community stakeholders may increase their 'communication' score. There is also a screen, which shows the player the average score they have achieved for each of the six pillars across all scenarios they have completed. Rather than a 'win' or 'lose' state, the scoring mechanic is thus designed to provoke reflection, encouraging them to question the impact of their actions on the people they are speaking to, the issue at hand and the wider communities around them.

If the player chooses to replay a scenario that they have previously completed, they are shown the results of the scores for each of the six pillars before the scenario begins, again to encourage them to think more about the actions they have taken and alternative means of resolving issues which may be linked to other pillars. While the overall final scores may be of interest to researchers, and ultimately the police, it is the reasoning behind each decision that is paramount. The player can access their current

pillar score through the settings menu (see [Error! Reference source not found.6](#)) on the main page and are re-presented with their first score if they choose to replay a scenario.

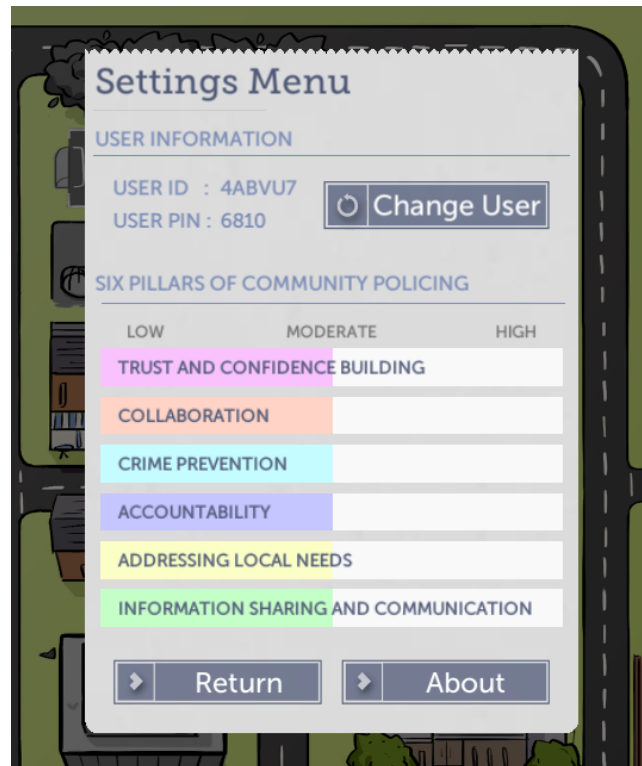
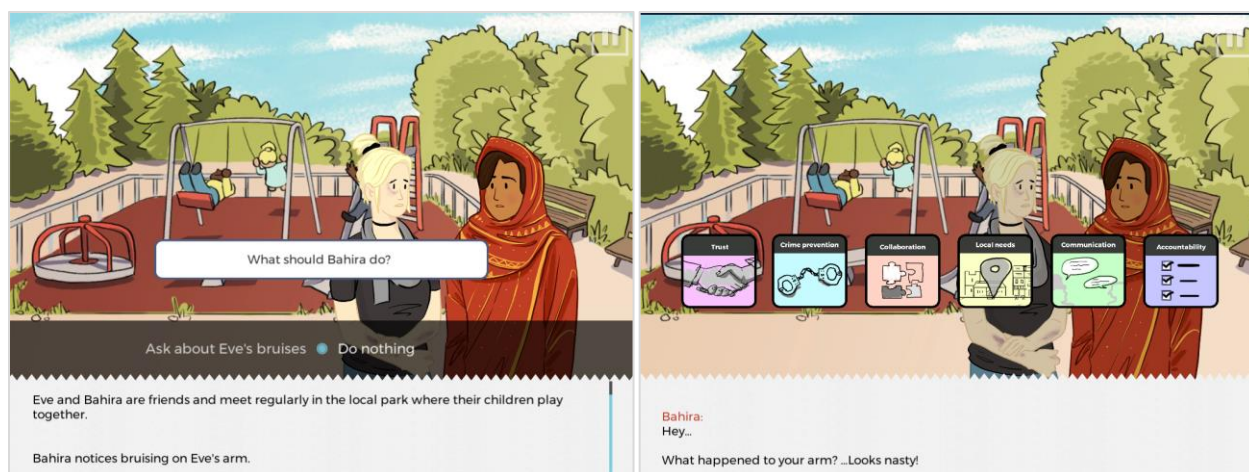


Figure 6: Example for pillar scores

Figure (left side) shows an encounter between two women as part of a domestic violence scenario. One of the women notices that the other has bruises on her arm and is given the choice either to ask about the issue or let it pass. Throughout each of the game's scenarios, certain dialogue choices are rewarded with points against each of the six pillars. For instance, if the player chooses to ask Eve (the second character's name), they receive pillar points across each of the pillars (see [Figure 7, right side](#)). The way the points are awarded is contextual to the situation and scenario, but generally rewards inquisitive behaviour or behaviour that is designed to diffuse tensions or solve complex problems.



**Figure 7: An initial decision (left); impact on the pillar scores based on the chosen option (left)**

#### 4.6 Harnessing demographic information

When users first play the game, they are also asked to anonymously fill in a short survey to establish a number of questions related to demographics such as age range, religion and cultural identifiers. This information is then aggregated to discern whether there may be trends in the way specific demographics engage (or do not engage) with issues and different groups in their community such as police. During facilitated workshop sessions this can be used to prompt discussions around reasons for certain trends such as a reluctance to engage with authority figures.

Upon completing the survey, users are given a user ID and PIN number, providing a save-state that allows them to continue from where they left off if they return to the game at a future date or use a different device or browser. Because the game stores a minimal amount of data in save files, users can play a number of scenarios (e.g. during a focus group) and then easily continue playing by signing in at a later date without the need for additional downloads to restore their progress. Users can also switch devices as many times as they like and continue playing using the same user account.

By recording demographic information for each user, the decisions that are made can be analysed to understand whether there are any significant differences among groups. This can be achieved in two ways: either by looking at the six pillar scores that different users achieved for a particular scenario or by looking at the users' responses to a particular question or group of questions. Looking at the six pillar scores gives a broad picture of how users responded to questions. In contrast, by looking at responses to specific questions, it is possible to be more explicit about why a specific (anonymous) user or user group achieved a comparatively low or high score for one of the pillars. For instance, considering the domestic abuse scenario, it is possible to analyse how users responded when asked whether to report a neighbour with bruising and investigate whether any group(s) is/are more or less likely to contact the police in such a situation.

## 5 Deployment and Analysis of the Game

Next to awareness raising for community policing issues, the purpose of creating the game was to determine whether there are any differences between how various demographic groups interact with the police in the context of community policing. The functionalities described above have thus practical value – not only for providing research possibility into disparate reactions to community policing challenges across groups – but also as a feedback mechanism and as a potential awareness raising and teaching tool. This can be achieved, for instance, by providing the game during focus group meetings with different demographics or citizen groups, then analysing whether there are any significant differences in responses to the hypothetical questions during each of the game scenarios.

In order to facilitate such analyses, the game communicates with a central server sending every decision a user makes for all scenarios they play. Once a scenario is complete, the score the user achieves for each of the six pillars for this scenario is also sent to the server. Due to the demographic data collected at the beginning, decisions can be analysed and compared across different communities to support the implementation of customised engagement measures depending on the choices they made. Further analyses can be conducted to investigate whether there are certain scenarios or questions where engagement is more or less common than in others. Findings can help identify sensitive aspects or factors that lead to lower engagement with police forces. This allows the development of awareness raising for these aspects or targeted trainings for communities as well as police officers.

## 6 Conclusions and Future Work

There are several opportunities in *AEsOP* to take the current design further. Firstly, the game itself has not yet been tested and evaluated within a local community setting. Such an evaluation would enable designers and practitioners to better understand whether such games achieve their objectives and whether they can provide sufficient information for police and community leaders (cp. [Chapter 9](#)).

*AEsOP* was developed to bridge a gap between police, citizens and communities to better understand how community policing approaches could improve local community environments. As such *AEsOP* can be seen as a pilot game to understand whether this serious game format is an effective engagement tool for local communities and can motivate greater civic participation in the long run. In the best case, *AEsOP* can act as a starting point or trigger to initiate a discussion within communities about how they can better help themselves and more proactively engage with the police in a way that is mutually beneficial to both sides.

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