

Task 4: EXPERIENCE AND ITERATION

GAME DOCUMENTATION
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Game Design Document

Full Story

A long time ago, during crusades, an Ultimate Knight named Eques ex Tempore had a special artefact which he could use in order to open a portal and switch dimensions. The portal was hidden in Valletta, Malta during the stay of the knights of Saint John. From the portal, Eques ex Tempore managed to bring in creatures beyond this world which he used to win battles. But then, one day he had a battle with his rival who managed to take his artefact and pushed him through the portal, acquiring the artefact for himself. He decided to hide the artefact but three knights, who were the followers of Eques ex Tempore managed to have possession of the artefact and to hide the gate and keep everyone away from using it. They spilt the artefact in three pieces, one piece for each, and swore to guard it with their lives.

The knight who managed to defeat Eques ex Tempore wrote a journal about the power of the artefact and what the three legendary knights did. This journal was then buried with him upon his dead.

Centuries later, the burial was being excavated by archeologists and happened to find this journal.

Player Introduction

From an ancient journal found during excavations, you, as the player and a modern relic hunter, learn that an ancient powerful artefact is hidden in Valletta Malta. While doing further reading of the journal, you discover that the location of the artefact is guarded by three mysterious Knights. These knights keep safe one of each three pieces of coordinates, which is needed to find the secret location.

On the journal, there are also three locations marked with the symbol of each knight on an old map of Valletta.

Legendary Knights

The three legendary knights have their own unique traits and abilities. The knights consist of: Spectral Knight, Sea Knight and Land Knight.

It is not enough in knowing in which area the knight appears but it is also important to discover the conditions in which it will appear. For example, after acquiring the Spectral Knights location, one must visit Valletta at night in order for the knight to reveal itself and propose the challenge.

The Sea Knight will show up at specific location near the sea and on a dull day. While the Land Knight will land on the top of a bastion during a clear sunny day.

Even if the knight's location is not yet discovered, the area in which it is located will occasionally effect your game if you pass through. For example, if you pass from the spectral knight's area, you will notice that sometimes your game will mimic a freeze or glitch.

Finding the Legendary Knights

When you manage to find the marked location of each knight, the player will find puzzles in AR (augmented reality) which they must solve in order to get another clue. The clue will lead them through a series of puzzles where the final puzzle will reveal the knight's location and hint about conditions.

If the player manages to encounter the knight, they will be challenged and if they manage to defeat it, the knight will give a piece of coordinate to the player and vanish.

Concluding the Story

As soon as the players manage to open the gate and use the artefact, Eques ex Tempore manages to return back and challenges the player. After a long difficult battle, they manage to defeat him and keep the artefact for themselves. The player thinks that it would be safer if it is locked away and forgotten.

Mechanics

General

Gameplay will be based on AR (augmented reality) and GPS location. When a puzzle is available and the player is in the correct location, if they point your smartphone to the surroundings, the puzzle will become visible on the display. At this point the player can interact with the puzzle object to solve the puzzle. If successful the puzzle will reward the player with another location that can lead to a harder puzzle or if final, to the knight's location.

Mini games (Secrets)

Secrets will be hidden around Valletta including mini games where the player can use a virtual drone to explore hidden areas accessing them from ducts or holes where the player cannot pass. Hints on the location of secrets will be given on each puzzle solved. Once you arrive to the secret location, a drone icon will appear and if you press the icon, the player will activate the drone where he can play this minigame which may vary from: puzzle, to run and or to a maze. Completing this quest the player will be rewarded with a side quest artefact or with coordinates to another secret location. Secret locations exist in order to keep the player busy if he gets stuck in a main quest puzzle. Since the game will attract mainly explorers I decided to give them more content in order to explore further.

Physical activity Game Modes

Along the way, the player will be also prompted with puzzles that require physical activity. These puzzles location will be chosen where it is less frequented by people so that the player won't disturb anyone. One of the puzzles is the Lava Streets. The street will crack and fall down uncovering lava pots. The player will be tracked by GPS and visualising the scene by means of AR, they must jump from pillar to another in order to successfully traverse to the other side of the road.

Another physical game mode would include the player sprint a street because they are being followed by creatures sent by the spectral knight to kill them and prevent them from getting the key. Again, the player will be tracked by GPS in order to calculate the speed and location. If the player turns around they can see the creatures coming towards him, if the creatures reach the player, the player dies and will have to restart the run game.

On physical games I am a bit worried about the capability of the GPS accuracy. I don't know if the GPS is accurate enough in determining a meter change in position or else if all smartphones GPS sensors is accurate the same way. Apart from that, I know that GPS can measure even altitude but I don't think that I will be able to accurately calculate in time the jump altitude since we are talking about split of seconds. An alternate idea for distance calculation maybe could be possible by using the camera itself. It locks on a target and measures its size and approximate distance, then as you jump it will calculate the new distance, subtract the difference and will be able to tell how much distance you have travelled. The accelerometer then can be used in order to sense the upward acceleration of the jump. If it does not sense it, it will assume that you fell in the lava pot.

Combat

Occasionally monsters will attack you during your quest and you have to fight them. The player can view the offender and its position using AR, and by doing so they can also evade attacks. The player will have a new button available to commence an attack, this will require the player to be at a certain range in order to attack successfully. If the player manages to kill the creature, the creature's corpse will remain on the ground. This will be possible by saving the players location during battle and offset the location by the creature's distance from that of the player. Thus, resulting in the exact location of the creatures. By leaving the body visible throughout the game the player can recall memories of that combat and maybe show it to their friends as well. Defeated creatures will be marked with a skull on the map

Fighting Knights

Fighting knights is very similar to fighting usual creatures. The major difference is that to defeat a knight you must first discover its weakness and the right timing in order to attack and successfully inflict damage. This will make boss fights harder and the player must observe well the movements of the knight. Once defeated the player will be awarded will a QR code which they can access the story of the knight and its 3D model. Apart from that they will also be rewarded with a part of the coordinate of the final gate location and a piece of one of the two keys to open the gate itself.

Opening the Final Gate

In order to open the Final Gate, the player must discover the hidden location and manage to assemble one of the two keys by defeating all three knights. The other key will be obtained from another player playing the game. This is done to promote cooperation. This way players will socialise and help each other in quests driven by the curiosity of what lies behind the gate. Once both players acquire the key they can present themselves in front of the gate and unlock it. Both then will enter to challenge the Final Knight. After winning the battle with the Final Knight both will acquire the artefact and accomplish the game. Although the game would have been bitten, the player can still roam and explore Valletta to complete unfinished secret side quests.

Cheating

In order to prevent cheating and complete the game from home using some kind of GPS hacking system, the game will have a maximum speed limit trash hold. The player must be present in location since the AR will require to compare the imaged saved in memory with that of the camera. This can be easily cheated if the camera is shown an image on a screen or a photo, and that is why I included the GPS location and speed limit. An average speed, based on fast walking will be set and if the GPS calculates

that the players speed is greater than the maximum limit the game will shut down. Apart from promoting physical activity it is a violation to enter in certain areas of Valletta using vehicles.

Another way of preventing cheating is on time-based events. Light sensors can be easily cheated and if in the area there are strong lighting it can also mislead the reading. Also, I would like to keep the game able to run without needing internet. Thus, the first time the game will require the use of internet to synchronise its internal clock with that of the actual time in Malta. I am not going to use the clock in the phone itself because that can be manually changed resulting in cheating. By running on its own time the game will prevent cheating on time based events and if something happens to the game and loses time synchronisation, the player can always reconnect to the internet and resynchronise the clock.

Conclusion

I tried to think and foresee problems that I may or may not encounter, yet not considering budget and technology. Many other issues will surely emerge while developing and testing. From my experience I can say that during development, problems may occur even due to software or computing limitations and you have to adjust your game or story in order to be possible to compute yet keeping faithful to the story.