

# Product vision

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## Team Krocket

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# 1 Introduction

Team Krocket consists of five Computer Science students at Delft University of Technology. During ten weeks Team Krocket will develop a Virtual Reality based game for the Oculus Rift and Android Smartphones.

This game is played by three players; one player has an Oculus Rift (virtual reality glasses), and the other two play with smartphones. The three players take on the role of a team of CIA agents, who are investigating the disappearance of their fellow agent. The two smartphone players are in the CIA headquarters. The Oculus player is in the woods following a lead, when he or she is knocked unconscious. When the Oculus player wakes up, he/she is locked up in a dark, scary room. Deadly gas slowly starts filling the room. A timer starts, which will terminate when the room is completely filled with the toxic gas. Luckily, the person locked in the room still has his earpiece and is able to communicate with the two players in the headquarters. The Oculus player has to search the room for clues and puzzles; he can look and move around in the room and interact with objects. The two agents in the headquarters will support and help solve the puzzles. When a puzzle is solved, information (e.g. a key, a secret room, or a new puzzle) is released which will help the Oculus player escape the room.

The experience this game will give is unlike a real escape room. To make things difficult for the Oculus user, and to give a real immersed experience, anything can happen. From loss of gravity to hallucinations, everything is possible in the virtual world...

This document will further elaborate the goal of the game and the target audience. The customer needs and the distinguishing factors of the game will also be discussed. Lastly, the time frame will be reviewed.

## **2 Product vision**

### **2.1 Goal of the game**

Since this is a cooperative game, the players will share a common goal. Miguel Teruel states that players have to be aware of both their own and shared goals at all times, in order to have a positive experience when playing cooperative and multiplayer games (Teruel, Navarro, González, López-Jaquero, & Montero, 2016). The primary goal for the players is to make sure that the player who's locked up can escape the room before the time runs out and the room fills up with the toxic gas. The locked up player can help fulfilling this goal by searching through the room and interacting with the present objects, in order to find hidden information, clues and puzzles. For the puzzles the help of the players at the CIA headquarters is needed, so by solving puzzles they can contribute to the main goal. Additionally, the players at the headquarters have access to a big deal of information, which directly applies to the room the Rift user is in. They need to share this knowledge with the locked up player at the right times, to push him or her in the right direction.

### **2.2 Target audience**

It would be ideal to produce a game that targets everyone, and that everyone finds fun to play, but this is probably impossible. "There are some games that fall within more than one genre, however they warn that special care needs to be taken since such games might not be appealing for any of the genre audiences" (Manero, Torrente, Freire, & Fernández-Manjón, 2016). Therefore this game targets a specific group of people, which will now be discussed.

First of all, the target audience ranges from the age of 16 up to 50 years old. This is due to the fact that most people within this range are familiar with modern technology and own a smartphone. Especially older people often lack knowledge about modern technologies (Ellis, Nurden, & Moye, 2010). In addition, the Oculus Rift can cause levels of discomfort in the form of VR-related motion sickness (Allen, Hanley, Rokers, & Green, 2016), which can be of higher severity for people falling outside of this age range. The game is not suitable for most children, since it needs a gentle and careful user. This is due to the fact that many modern technologies, such as the Oculus Rift and smartphones, are still sensitive to incautious actions such as falling on the ground. Children still have to learn that objects and instruments must be used with due care (Worzbyl, 2004), and therefore children are not in the target audience. In addition to this, the puzzles that are to be solved in the game might be too difficult for very young children. This will be because of the nature of the game. The puzzles are designed to be challenging for (young) adults, and thus young children will have a hard time solving these puzzles within the set time limit.

Apart from age, it is also important that the players like the game concept, so that they want to play the game. The Oculus Rift user is mostly busy with searching the environment and communicating his findings to the other players. The other players will be busy with playing minigames, to obtain information and clues for the Oculus Rift player to escape, and communicating with the Oculus Rift player. The target audience will therefore include people that are interested in cooperative games, like to solve problems and play minigames. The next section will discuss how to ensure that the players will like the game.

### **2.3 Customer needs**

This game is meant for entertainment, which means that the customer should have an enjoyable and immersive experience. In order to achieve this, the game should meet as many of the

customers' needs as possible. This section will discuss some of the most important needs of customers to enjoy a game, and how these aspects will be incorporated in the game.

Earlier studies have shown that games which have an interface that is not intuitive or even hard to use are often seen as less enjoyable (Amory, Naicker, Vincent, & Adams, 1999). Therefore, to meet the customers' needs, it should be clear how to interact with the game and the interface has to be intuitive. When starting the game, a menu will appear which shows the available options in a clear manner. The description of the options will also be clear, so that confusion can be avoided. The game will be made further intuitive by using the hardware in the way the players are used to. For example, the thumbstick on the gamepad, that will be used by the Oculus Rift player, will be used to walk around in the environment, as in most games.

The storyline of the game is also an important aspect. One of the genres of the game is adventure, and "in adventure games, narrative is important in order to create a rich space for the player to explore. Often these games rely on intriguing story to propel the player to explore the world" (Information Resources Management Association, 2011). In this game this is also the case and is done by telling the players the story about the murder investigation and the locked up player. This will motivate the locked up player to explore the room and motivate the mobile device players to solve the puzzles as quickly as possible.

Another aspect that customers desire of a game is that the game is challenging. It has been shown that challenging games allow players to be more engaged and immersed in the game (Hamari et al., 2016). In order to incorporate this into the game, the puzzles will have to be of appropriate level with respect to the target audience; the puzzles are not too simple and not too hard, instead they will be challenging to solve. The same goes for the Oculus Rift player, who has to look for hidden objects and clues in the room. The objects and clues will be hidden in such a way that they are not apparent right away. Some intellectual effort is needed to proceed in the game.

A last factor that players also find important is the realism. It has been shown that the higher the game's realism, the higher the controller naturalness of the player (Mcglain & Krcmar, 2011). Also, "increased immersion facilitates enjoyment" (Mcglain, Farrar, Krcmar, Park, & Fishlock, 2016). Realism is achieved in the game by creating a storyline that could happen in real life or could be seen on a television show. The Oculus Rift also contributes a lot to this aspect. The purpose of this device is to make the experience as realistic and immersive as possible. Therefore a game with the Oculus Rift will also be perceived as realistic.

## **2.4 Distinguishing factors**

Over the last years the computer game industry has gotten very large. Take for example the video game industry of the United States; this is one of the fastest growing sectors (TheESA, 2014). Still, there are significant differences between this new game and the many already existing ones.

The first distinguishing factor of the game is the use of the Oculus Rift. This device allows the player wearing it to enjoy exceptionally vivid and realistic gameplay, so that the player gets absorbed into the environment (Purpur, Radniecki, Colegrove, & Klenke, 2016). This experience will make the game more attractive and interesting to play. The use of the Oculus Rift will attract players that like innovative games with modern and new technologies. Obviously there are more games that require an Oculus Rift, so this is not the only factor that distinguishes the game.

Another factor that makes this game special opposed to other games, is the fact that all players have to be in the same physical space. This allows the players to have the best communication and it will support the cooperative element of the game (Flaherty, Pearce, & Rubin, 2009). The game also encourages friends to meet up in the real world, instead of just playing

video games online with each other.

A difference between this game and other games is that some games only allow all players to take on the same role; in other words, all players have the same tasks and possible actions. In this game there is a clear distinction between two roles. One role being the Oculus Rift player whose primary task is to search through the environment, and the other role having the primary task of solving puzzles and minigames.

The last distinguishing factor is that the game makes use of multiple modern technologies as opposed to most games that only make use of one or two techniques. The first device was already mentioned, namely the Oculus Rift. The Oculus Rift player will also use a controller to move and interact with the objects in the environment. Next to this, the other players will make use of yet another device, namely smartphones. The use of the three different devices will make this game stand out next to other games, and therefore make the game more appealing.

## **2.5 Timeframe**

This game should be finished within 10 weeks. This is including the brainstorm sessions on the idea and concept of the game. The release date is the 22nd of June 2016. Budget is not applicable in this situation.

We will ensure to make deadlines by the use of Scrum methodology and by reiterating every week on what has been done and what still needs to be done. The Scrum master is in charge of guiding the weekly meetings.

Because we have many things to consider, such as deadlines, we have to keep ourselves to a strict planning. We created a large spreadsheet document with all our meeting, classes and deadlines. In this spreadsheet we can review all upcoming appointments and deadlines.

Communication within a team is the key to success. Even though we meet often, we cannot always be together. This is why we are using instant messaging applications to stay in touch. The instant messaging applications are equipped with a broad set of features, such as filesharing and support for code snippets. These features allow us to work together remotely and efficiently.

## References

- Allen, B., Hanley, T., Rokers, B., & Green, C. S. (2016). Visual 3d motion acuity predicts discomfort in 3d stereoscopic environments. *Entertainment Computing*.
- Amory, A., Naicker, K., Vincent, J., & Adams, C. (1999). The use of computer games as an educational tool: Identification of appropriate game types and game elements. *British Journal of Educational Technology*.
- Ellis, L., Nurden, C., & Moye, C. (2010). Older people, technology and community: The potential of technology to help older people renew or develop social contacts and to actively engage in their communities. *Independent Age*.
- Flaherty, L. M., Pearce, K. J., & Rubin, R. B. (2009). Internet and face-to-face communication: Not functional alternatives. *Communication Quarterly*.
- Hamari, J., Shernoff, D. J., Rowe, E., Coller, B., Asbell-Clarke, J., & Edwards, T. (2016). Challenging games help students learn: An empirical study on engagement, flow and immersion in game-based learning. *Computers in Human Behavior*.
- Information Resources Management Association. (2011). *Instructional design: Concepts, methodologies, tools and applications*. IGI Global.
- Manero, B., Torrente, J., Freire, M., & Fernández-Manjón, B. (2016). An instrument to build a gamer clustering framework according to gaming preferences and habits. *Computers in Human Behavior*.
- McGloin, R., Farrar, K. M., Krcmar, M., Park, S., & Fishlock, J. (2016). Modeling outcomes of violent video game play: Applying mental models and model matching to explain the relationship between user differences, game characteristics, enjoyment, and aggressive intentions. *Computers in Human Behavior*.
- McGloin, R., & Krcmar, M. (2011). The impact of controller naturalness on spatial presence, gamer enjoyment, and perceived realism in a tennis simulation video game. *Presence: Teleoperators and Virtual Environments*.
- Purpur, E., Radniecki, T., Colegrove, P. T., & Klenke, C. (2016). Refocusing mobile makerspace outreach efforts internally as professional development. *Library Hi Tech*.
- Teruel, M., Navarro, E., González, P., López-Jaquero, V., & Montero, F. (2016). Applying thematic analysis to define an awareness interpretation for collaborative computer games. *Information and Software Technology*.
- TheESA. (2014). Games: improving the economy. *Entertainment Software Association*.
- Worzbyt, J. C. (2004). *Teaching kids to care and to be careful: A practical guide for teachers, counselors, and parents*. RL Education.