

Product vision

Customer and Target participant analysis

We are making a game for a queue so at first we are targeting companies that have many queues. We were thinking of entertainment parks and airports. Our game could also work well on small queues i.e. in front of a coffee machine, but we don't think that someone would buy our game just for that, also in such a case the supply of (new) people would probably be too little and not steady enough (the queue would go empty at times). Our game can be designed in multiple themes so the game could easily be adjusted for attractions with a certain theme.

Our game requires a certain setup to work properly since we will be using a projector and a camera. First of all, we need enough space so the camera can detect enough people and the distance between the projector and the projector screen / wall is large enough. Preferably we would like the game to be displayed on a 1:1 ratio as changing the wave will then feel very natural to the players.

It will be easier to detect the heights of the players when the background behind the players is unicolor and immobile. Other people should not be able to walk between the participant and the screen as it could disrupt the gameplay. Because we use a projector it might also be better if our setup is indoors since the screen is hard to see with too much sun light on it. Thus our ideal setup would be with two walls (one to project on and one as a background), indoors and with enough space for the setup.

Furthermore the queue should be one person wide and straight (at least along the segment where the game takes place). There are no constraints on the speed of the queue nor total length of the queue (as the camera will only detect a segment of the queue).

The target consumers are participants of the queue where this project is setup. Age can vary from a young child to an elder member of society however because our gameplay mainly revolves around motion detection and simple instant success mechanics we mainly target the younger classes of our society (without excluding any specific age group).

One important aspect is the player heights. Imagine a queue segment composed of a group of tall dutch men and a short sized child at the center. If the camera is positioned at an average height then player movement along the z-axis will have little effect on the player heights perceived by the camera. One obvious solution that requires additional effort on behalf of the tall players is that they play the game in a bent position to more or less level their heights with the shortest player. However the short height can also be used as the bottom point of a slope to create a 'kicker' (i.e. jump) to launch the object at a target.

Customer needs analysis

The main goal why we make a game for a queue is because a lot of people are extremely bored while they are waiting in a queue. There are queues that only take a minute but there are also queues that can take half an hour or even up to multiple hours. Everyone knows that time passes quicker when you are having fun. So we try to make our game as entertaining as possible.

Another thing that we want to address with our game is the need for social interaction. We think that people rather have a nice chat with people around them instead of standing silently alone in the queue. Most of the times people are socially awkward when standing alone in the queue checking their cell phone every few seconds. Often texting with friends that are miles away. Instead they could socially interact with everyone around them. Since a lot of people don't randomly start talking to strangers we decided to make a game to help them. This way people standing in a queue will be having fun playing a cooperative game together.

Our game is a multiplayer game and always needs to be played with at least two players. To achieve the goals of the game the participants need to work together. If someone in the queue doesn't participate then he could ruin it for the rest. The other participants will probably convince that queue participant to also join in. Thus instead of standing alone in the queue, the participants are now working together as a team. We believe that people would prefer to be actively playing a game together instead of doing nothing.

Crucial product attributes

Since we are using camera detection and this often triggers many errors/gameplay disturbances we need to make sure the game is playable: the players must be able to control gameplay elements using camera detection without having the feeling the detection is their main obstacle in the game (this might sound exaggerated but from experience we can say nearly all camera detection/motion detection games we have played are not smooth and unless you understand how the detection works many motions made by the players are not interpreted as the player intended).

In order to promote social interaction in a queue, we need a way to change the structure of the queue from a handful of individuals to a group of socially connected people working together in a team. The game should provoke a team spirit and bonding amongst the strangers in the queue.

In order to achieve this the game cannot be too detailed or have a steep learning curve. It should be a simple yet fun game that is easy for any new player to jump into and drop out of at any time without negatively affecting the gameplay.

Still, every player should feel like he can control the game sufficiently to make a difference for the team. A player should not feel like he is unnecessary for the team and can just stay still without it having an effect.

Because new people will be joining the game and current players will exit the game as the queue advances, the game should not be bounded by time or levels. There should not be any character progression or saving (except possibly for highscores). The game should be continuous and never-ending. When a person leaves the game he or she should think that playing the game was a fun experience and may want to go for another run. That person must not however feel like he/she has made progress in the game that is now lost for her personally since she left the game (for example by having had character progression, a permanent upgrade of some sort).

Queues can have a lot of different sizes, i.e different amounts of people standing in the queue. Our game will not be able to handle any amount of players, but it should be flexible in the amount of supported players, being tied to a maximum and minimum.

Literature study and analysis of the existing alternatives

Queue entertainment

There are not a lot of games designed to make waiting in line more fun. Theme parks often decorate the waiting area to fit the theme of the attraction people are waiting for (e.g. the queue by the vogelrook from the efteling). A lot of clinics use magazines or other reading material to make the time pass more quickly. There are even some clinics that have physical games for children. Computer games on the other hand, are not something you see very often in a queue setting. This means that in the specific area of games designed to amuse or distract people waiting in line there isn't a lot of competition.

Camera controls

However there are games that incorporate the same kind of controls as we allow in our game. Both the eyetoy games for the playstation 2 as the kinect for xbox require participants to move their body to control the game. These games generally use a more complicated way of image recognition than we plan to implement in our game. Since we only need one coordinate per participant we can make do with a more simple camera than the kinect and a more simple detection algorithm than the eyetoy.

Similar gameplay

Analysing gameplay elements from popular games can help make our game more interesting. Unfortunately there aren't a lot of big game companies that make physics based slope

manipulation games. But we can look at a wide range of internet games available such as “solipskier” that do have these kind of mechanics.

Underneath we have two links with examples.

Eyetoy:

<https://www.youtube.com/watch?v=cYmcOiWzWgE>

Solip skier:

http://www.physicsgames.com/action-games_solipskier/

Available time and resources

The timeframe in which we must realise our end product is 7 weeks total, from the start of the project (i.e including creating the idea).

We have a budget of € 0,- total, we will only be using free software packages and hardware that we borrow. The borrowed hardware consist of a projector/screen and a camera to show the game on a screen and to perform the height detection respectively.

The hardware that is already at our disposal are our own PCs.