Design document
DuoDrive

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Abstract

DuoDrive is a racing game intended for groups, where players pair up and try together to get their car to the finish as fast as possible. Specifically, one player controls the throttle and the other one controls the steering wheel, but they only see information useful for the other player. Thus, close physical collaboration is necessary for success. In this document we outline the context our game is intended for, and answer five fundamental questions (Picher, 2009) about DuoDrive.

Firstly, we will explain the context. Secondly, we will outline the gameplay. Then, we will discuss who is the target customer, and subsequently we will outline the customer needs the product will address. After that, we state which product attributes are critical to satisfy these needs. Then, we compare our product with two existing products available in Google Play (https://play.google.com/store/apps). This comprises of a limited survey. Lastly, we state the target timeframe and budget available for the product. Each question is discussed in a separate section.

Contents

1 Context

We have designed our racing game DuoDrive to be played in a waiting room where people get bored. To cure their boredom, these people could play the game. Waiting can cause boredom (Conrad, 1997, p. 474), and research shows that people playing video games may experience time loss as a positive thing because it "helps relieving boredom and/or stress" (Wood, Griffiths, & Parke, 2007, p. 40). Furthermore, young adolescents may play games "to pass the time" (Phillips, Rolls, Rouse, & Griffiths, 1995, p. 688) or because of boredom (Olson et al., 2007, p. 81). We assume social interaction is something enhancing people's gaming experience, and we have designed DuoDrive with social interaction in mind. We would like to thank Dr. Bidarra of the faculty EEMCS of TU Delft for adding ideas to our initial concept with respect to social interaction.

Examples of suitable waiting rooms are at a dentist, in a hospital, or at an airport. Importantly, there must be space for pairs of seats so that collaborating people can sit back-to-back to play the game. We will address the details in the next section.

2 Gameplay

The gameplay of DuoDrive is as follows. In a waiting room, a number of seats are placed back-to-back, i.e. two rows of seats that are mirrored. People with an Android device pair up and take one of the available seats. Pairs should sit with their back to each other. Each pair will control one car in the game. The players have to download the game app if they have not yet obtained it.

When everyone has picked a seat, each player chooses a team determined by their seat. He/she also chooses whether to control the steering wheel or the throttle. After each player has chosen these options, the game starts.

During the game, the person controlling the steering wheel only gets information on how fast to go. He/she should say, physically, to his/her partner how fast to go. The throttler, on the other hand, only knows how to control the steering wheel and gives this information to his/her partner. The corresponding player should then actually control the steering wheel or throttle.

Eventually, the teams will get to the finish with their car. It is the task to get to the finish as soon as possible. When every team has reached the finish, the game is over and people can pair up again to start a new game.

3 Targets

The product is focused at people in a waiting room. People may get bored of waiting (Conrad, 1997, p. 474) and we assume they want some amusement in the meantime. We assume the majority of people who are in such a situation are in the age range of 10+ years. They should have the ability to use a touchscreen device and have proper orientation to make use of the game.

The customers playing the game should be situated in the same room. In this room the equipment needs to be installed so that the users can play together. The room should have space for multiple chairs, in pairs of two.

4 Customer needs

The main customer need the product will address is the need of amusement while bored waiting in a certain room. The customer should have a feeling of pleasure after having played the game. Moreover, since the customer probably likes the time to pass by fast, this product will also address that need. An addictive game will make the player want to play more and more. By gaining this effect, the customer will experience the feeling of time going fast. Without noticing too much, the waiting time is over and the customer should be satisfied.

Another need is achievement, whereby the customer should have the feeling that he/she has achieved something. Even when not winning, the player should gain the feeling he/she has achieved something. In general, the player can have enough fun without achieving a goal. However, we assume most people enjoy having achieved a certain thing after an amount of time, in this case having played the game.

5 Crucial product attributes

While waiting, an activity to do is generally interesting so as to enjoy the time we are waiting. This can vary in many different forms. Our goal is making this waiting time useful by means of a social game. There are several crucial attributes to achieve this goal. The first one will be the requirement of communication to win. The second attribute is giving the player a sense of amusement during and after the game. The last one is the feeling of achievement that the player should obtain.

DuoDrive will satisfy the customer in that need. Imagine being in a room with multiple people all waiting like you are and all looking for something amusing to do. Having our product in that room will attract them to get up and play.

Because of the effect of sitting back-to-back, an important social aspect needs to be achieved: communicating to win. Interaction is a must in order to reach the finish line together. Moreover, since the customer and his/her partner are not the only ones playing, it will become a competition between multiple players. A room filled with eight people, forming four teams of two to get the fastest time, may be possible. Even though the customer may not know your partner, he/she will try hard, by communicating, to win the game. This will satisfy the need of amusement by social interaction.

Another need of the customer, perhaps the most important one, is amusement during the time waiting in the waiting room. This is a need that must be taken into consideration when developing the product. Because of the social interaction, several things may go very well or rather badly during the gameplay. The customer might want to say to slow down the car, but accidentally says the opposite, making the car crash. We assume this will make for lots of joy since it was not meant to happen but the crash is funny and both customers would actually enjoy it. Also, hearing the other teams scream or notice that they did something wrong will make the customer's team more comfortable. No matter the situation, the chaos that may occur should create a big sense of amusement among the customers.

Then there is achievement, a feeling that almost everyone should have after having performed an activity, we believe. There are several elements processed in the game that will make the player experience this feeling. The first one will be the achievement of communicating in such a way that together the customer and his/her partner can drive the car over a track. This can be seen as a skill

that gets developed through a gaming activity. The second one will be multitasking. Driving a car purely based on another person giving the customer instructions on when to turn or go straight and on the same moment telling the other how much to throttle, is difficult. We think it requires focus and a developed multitasking skill. Being able to do this should give the player a feeling of achievement too.

Overall, the product contains all the attributes and elements to satisfy the needs of the customer/player. By satisfying these elements it will most certainly guarantee the success of the product. Every player should leave with a feeling of amusement, and by the time the game has finished, the waiting time will be over. They will have spent their otherwise wasted time playing a game of social interaction and achieving multiple goals.

6 Comparison with existing products

In this section we will first discuss two existing racing games and how they compare with ours. We have chosen these games from a mass quantity of games found on Google Play (https://play.google.com/store/apps). Our selection is based on visual similarity with what we have in mind for the design of DuoDrive, but with different gameplay. Then we will explain what makes DuoDrive unique.

First, there is Turbo Racer (nowkam, 2013). This is, like DuoDrive, a 2D top-down racing game; however, it differs from our product in several ways. First of all, this game is single-player whereas ours is multiplayer. The idea of entertaining a group is not apparent; one could play this alone. Also, the opponents in Turbo Racer are computer-generated. This means there is no such concept as collaborating or competing against another person.

Another game is Craigs Race (Mitchell, 2009). This is also a top-down and 2D racing game. In this game you see ghost cars of other players, so it's not completely single-player. However, compared to DuoDrive you do not have to work together in this game either. In fact the game concept is rather plain: you see the road completely and your car just has to follow it.

Our product is different in that both collaboration and competition are integrated into the gameplay: in teams of two, you work together to beat the other team(s). Moreover, the collaboration is physical: you are back-to-back and give each other commands. This is what makes DuoDrive much more challenging than existing racing games.

7 Timeframe and budget

This section is based on the official planning document (Blackboard 2014).

For this project a timeframe of ten weeks is available: from April 22, 2014 until June 27, 2014. We will start creating a prototype in the week of May 5. In particular, on May 23 the first playable must be ready, and the beta and release versions are due on June 6 and June 24, respectively. We will give presentations on May 26 and June 27. Moreover, on June 27 we will demonstrate the product to the public in a game demo market.

Concerning budget, there is no financial budget available. In terms of man-hours, we will be working as a team of five people for roughly 28 hours a week each (calculated as per the ECTS for this course), including lectures.

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