
Taxi Trouble: Communication is key

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Abstract

We present the Android game *Taxi Trouble*, an interactive, competitive and collaborative multi-player game focusing on stimulating social interaction, effective communication and entertaining groups of four to eight people for a short timeframe.

Author Keywords

Competitive gaming; Collaborative gaming; Social Interaction; Social gaming; Mobile gaming

Overview

Taxi Trouble is a racing game developed to entertain groups of four to eight people who are together in the same area. It is designed with the purpose of stimulating social interaction between players. The game requires that players verbally communicate within teams of two in order to be successful.

Background Research

In various situations, large groups of people will be together for long periods of time, e.g. parties, festivals, etc. This is a great potential for social interaction, which may be difficult especially when surrounded by complete strangers. Sellar [1] argues that computer games are not simply a means of individual entertainment. Allowing players to participate in an interactive, competitive and cooperative computer game is thus a well-fitting, but also challenging way of improving social interactions between individuals.

Collaborative games are becoming more and more popular. Ducheneaut and Moore [2] describe three elements that make a social game stand out, which are collaborative activities, a shared experience of playing the game and getting satisfaction as a result of socializing with a group of people. Granic et. al. [3] further state that an entertaining game should make players feel in control, but at the same time have an element of unpredictability, resulting in a sense of satisfaction and pride when the players' shared goal has been reached.

Competition in computer games has always taken an essential role in multiplayer games. According to Vorderer et. al. [4], including competitive elements in games allows active player engagement and yields in getting direct feedback on the players' actions. Cairns et. al. [5] add that playing a game against human players results in more involvement than playing against computer opponents.

Design and Development

Following the results of the background research, as discussed in the previous section, we designed a game

in which players are assigned to teams of two, with one player taking the role of a taxi-driver and the second taking the role of navigator. The goal of the game is to pick up passengers and take them to a specific location to score points while racing against the clock. Collaboration exists between teammates while competition occurs between teams.



Figure 1. Driver view: Team 2's taxi carrying a passenger, with the first team's taxi visible above it.

When a player decides to start a new game, they can decide on the total number of players (either 4, 6 or 8). The player must then wait for the total number of players to join. As soon as the game starts the players are randomly assigned into teams of two and get either the role of taxi-driver or navigator. The taxi-driver controls the taxi and only has a limited view of the city, as shown in *Figure 1*. The navigator on the other hand has a much wider overview of the city, as shown in *Figure 2* and can further explore it by swiping the screen and zooming in or out. The navigator's job is to verbally guide the driver to the right locations to pick

up passengers and drop them off at their destinations within a given time limit. Without the help of the navigator, the driver will not know the location of passengers or other teams. This makes the game difficult to win without effective communication between the driver and navigator. Each passenger must be delivered to a specific location within a certain time limit, and points are scored based on how quickly the passenger is delivered. To make the gameplay even more entertaining and competitive, it is possible to steal a passenger from another taxi by bumping into it. We also introduced power-ups that can be picked up and activated by the navigator. These provided benefits such as shields from other taxis, and speed boosts to make the taxi faster. We opted for short games to increase tension, so each game takes five minutes. The team with the highest score at the end of the five minutes is declared the winner.



Figure 2. Navigator view: The taxi is shown approaching the passenger drop-off area, represented as a checkered box.

Gameplay Testing and Evaluation

Just before our product entered the beta stage, we held a gameplay test at the *Science Centre Delft*. We chose this location on purpose as it tends to attract a large technically-oriented crowd between the ages of twelve and thirty.

Our tests indicated that it is a bit troublesome figuring out how to play the game, as nearly half of the players said that it took too long to completely understand the game. Once users understood the game, they began to communicate with each other. This showed that the collaborative elements of the game were effective at stimulating social interaction.

The time-limit for a passenger drop-off actually emerged due to results of this study. We found that, while the game was fun to play, players felt that it was a little bit too easy to score points. By adding the time-limit, there is now a heightened tension associated with scoring points. We found that this additional feature made our game more challenging and fun to play, and also forces the navigator and taxi-driver to communicate more, to quickly determine where the driver needs to go in order to drop off the passenger.

Despite the initial absence of this time constraint, all players found our game a huge success, as nearly everyone said that they would like to own the game.



Figure 3. Gameplay tests: Players communicating with each other as driver and navigator.

Game trailer

A trailer for Taxi Trouble has been created showing the most important and distinguishing aspects of its gameplay in comparison to existing games. The video can be viewed at: <http://goo.gl/3CnKV3>

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