Fast Food Wars

Executive Summary

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Project Goals

Melange Computing Services has a long history of providing quality gaming software. While successful, the company's focus has been on the 3d gaming market for PC's. The gaming market is changing, with mobile platforms sharing a larger role. Melange would like to enter this market. Market research has shown that 2 dimensional board games are a market ripe for exploitation. The goal of this project is to develop a software system capable of entering this market allowing for the successful transition for Melange.

The strategic goal for the company is to be able to market this game to a third-party. To this end, we have identified a likely buyer, Funskool, Inc. Funskool is a maker of toys and board games, and would like to expand to the virtual market. Executives at the company believe that there might be a synergy with this project and have committed to working with us during the development project. Our hope is that we can build a long term relationship with Funskool, where Melange provides the development and support while Funskool provides the marketing and distribution.

Project Overview

Fast Food Wars is a turn-based strategy board game for 2 to 6 players, recommended for players aged 11 and up. This game places fast food franchise owners against each other in a war to conquer the city and its suburbs. Each player owns a certain franchise and battles their opponents to become the last one standing. This is a fast paced strategy game requires luck as well as intelligence to become the most successful businessman. Funskool believes that this type of competitive gameplay will draw their customers to purchase this computer game.

System Design

The game will be designed based on Java developing platform which provides great compatibility for multi-platform. It includes five models which are GUI model, interaction model, system model, AI model, and network model.

GUI model provides with displaying functionalities to this game. Since this game is designed to be compatible with different platforms, an important feature of GUI model is to automatically adjust to general displaying devices. Although operating systems ensures a software to display correctly on that system. It is also necessary for GUI model to ensure the correct layout when displaying on devices with different proportions and resolutions. GUI model also includes other important sub-models, such as 3D rendering sub-model, items sub-model, and view angle sub-model. Especially, the view angle sub-model provides users different views of the game. The overview gives users best sight of the whole board. And the third person view simulates a third person watching two people playing the game.

Interaction model is responsible for processing user inputs of any terms such as keyboard and touchscreen. It will also interacts with the operating system to invoke the default browser when redirecting to an external link is needed. It can also invoke low level system interfaces to make a phone call if the device has access to GSM network.

Network model gives the game the ability to access different types of network systems such as Wi-Fi and 4G. And AI model provides the game with AI functionalities which are needed for Player vs. Computer mode.

At last, system model works as the hub of all other models organizing communications and interoperations between models. Besides, it provides the fail-safe and updating functionalities. If the game encounter errors system model will try any effort to save user data and send error to the maintenance team. And it also checks available updating as the game is running.

Domain Experts

We have identified current owners of fast-food franchises to serve as domain experts. Experts are expected to ensure the correctness and rationality from general ideas to specific implementations. All items present in this game should originate from real life and the design should be an abstraction of the difficulties and rewards that a franchise owner faces in real life. Furthermore, in-depth knowledge of the fast food industry should also be provided to customers in terms of game guides and helps.

Verification and validation

To insure user satisfaction, there will be three stages, regression, black, and white box testing. Regression testing will be performed throughout the whole development process. White box testing will test for control flow, data flow, path flow verification and validation. Testing processes will be differ by granularity and importance of functions and models. Stage two is black box testing to evaluate functionalities of the game. Professional testing engineers will be invited to complete small scale black box testing. Then a test version will be released to public for further black box testing.