



Bilkent University

Object-Oriented Software Engineering

Final Report

Department of Computer Engineering

Roomie

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1. Changes in the implementation

Game class in Game subsystem is designed with respect to singleton pattern. This design is more suitable since it restricts the instantiation of Game class to one object. This single Game object is useful to coordinate and perform actions across Roomie.

There are other changes in Game class. The current event and the button that is pressed during the game is changed to be observable objects.

There are many functions added during implementation. The player is able to sell and use all items in his/her backpack at once.

2. Current status of the project

The features that were promised are nearly completed in the project with minor deficiency. The sound feature is not available in the project and the features related to sound are also missing. Also the user cannot save the game, it restarts each time the game is entered. These features can be added in future versions.

3. User's guide

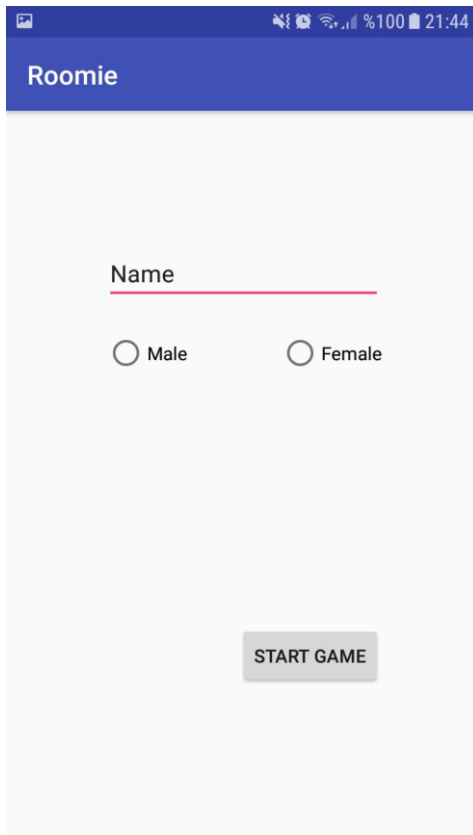
3.1 Requirements and installation

Roomie is an application which requires Android 6.0 API for installation. It is implemented in Java.

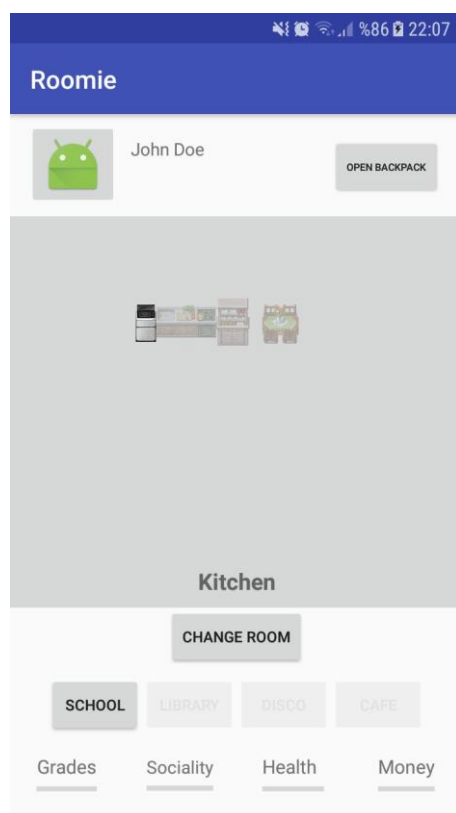
The project was implemented by using Android Studio which uses IntelliJ based IDE. The application demands permissions for the microphone and motion sensors. Also it uses Android's SharedPreferences class to save/load some key-value sets which uses internal storage of the device. However, Roomie requires special hardwares such as Gyro Sensor(Motion Sensor) and Microphone(MediaRecorder), these are mostly included by the manufacturers as default in most of the current phones of the Market. The application launches from the login screen and moves to the house activity where game is played. Source code

of the project could be seen from master branch of the project file and the individual updates from the separate branches.

3.2 Overview of the game

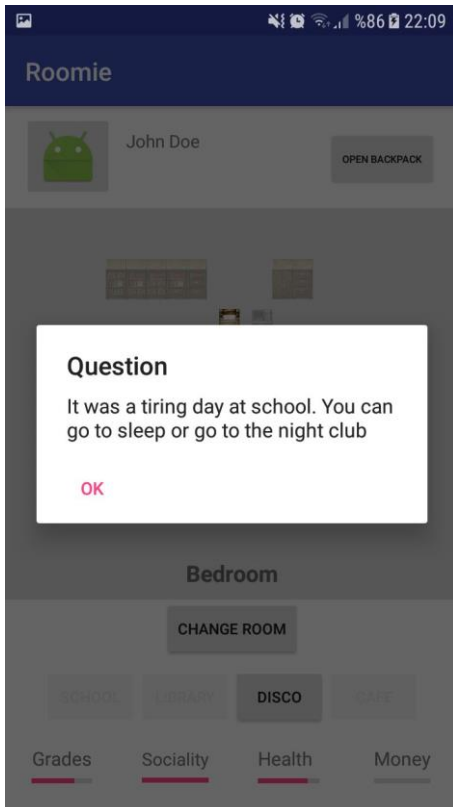


- This is the opening screen of Roomie, the user is asked to create its own character by entering its name and choosing its gender. Start game button is used to start the game.

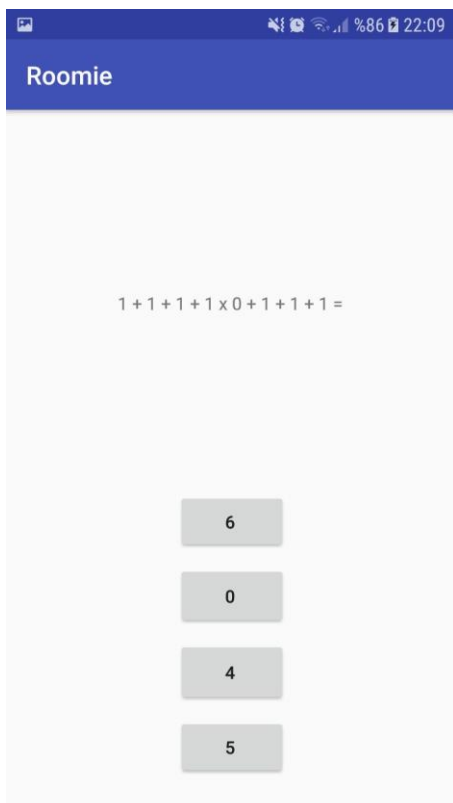


- Android button represents the user and it is used for showing current event's question.
- Open backpack button is used to view the items in the backpack.
- Change room allow the player to visit different rooms of the house such as bedroom, kitchen, living room etc.
- The four bars below represent the current stats of the player. In this screen shot, they are set to their maximum values. They change in the flow of the game with respect to the users choices.
- The four buttons below change room button represent the four Outdoor environments which are School,

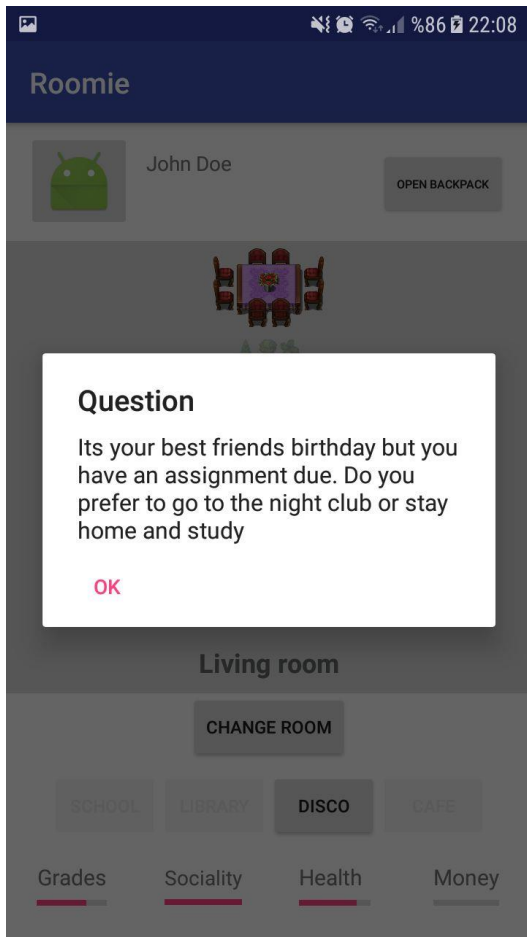
Library, Disco and Cafe. The buttons activate only when the prompted question allows the user to visit one of those Outdoor environments.



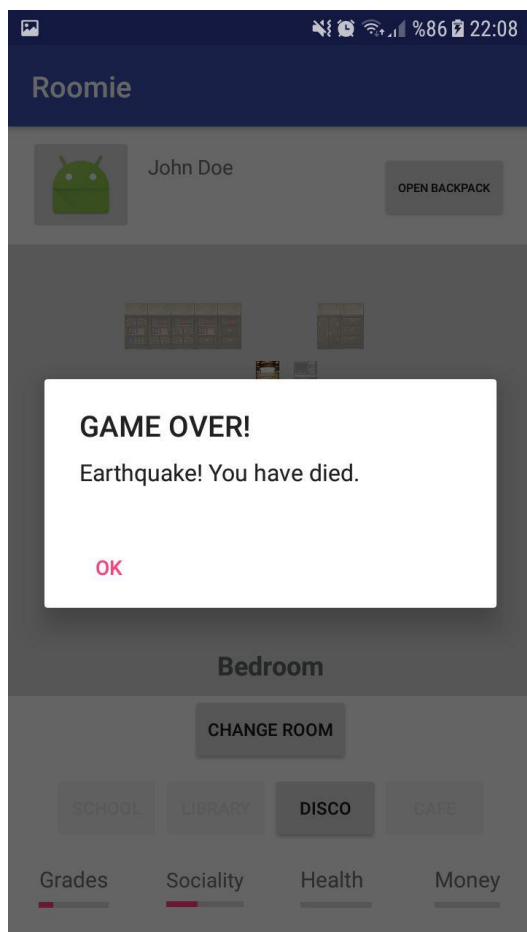
- In this screen the application shows a dialog. The dialog shows current event's question. After closing the dialog, the user presses one of the item to make his/her choice. The game makes calculations based on this choice and shows the next question.
- For instance this question allows the user to press the bed item in bedroom or press disco button and go to the night club. This choice determines the next event.



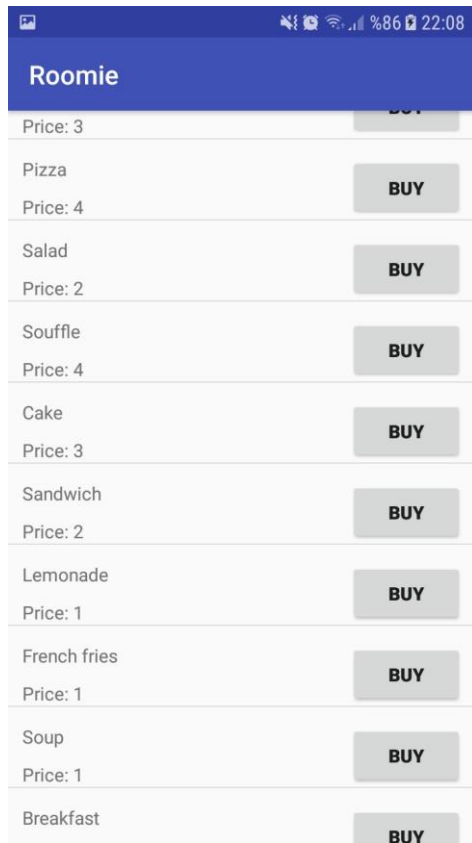
- In this screen the application is in the School Outdoor Environment. The prompted question is chosen randomly among a set of questions and the answer to the given question affects player's stats. After answering the question the player exits school and returns to home and prompted another question.



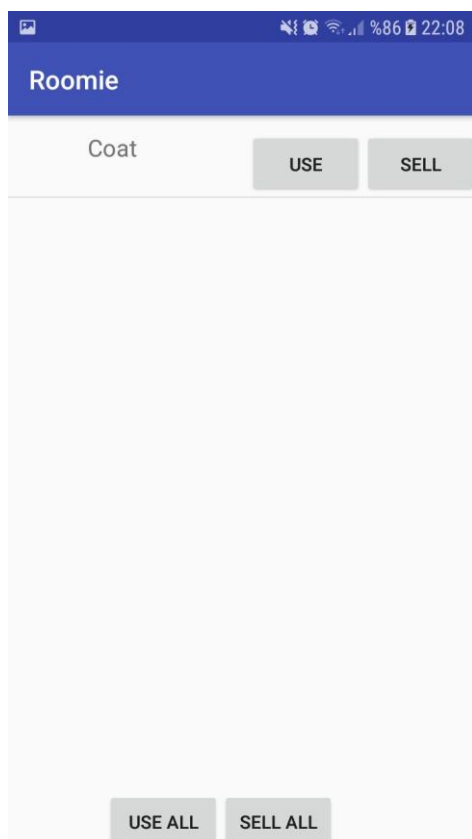
- After answering the quiz question, the player returns home and prompted this question. Now it can either choose to go to the disco or stay home and study.



- Some events have extreme options. When the game is initialized, each option of each event has 1/10 change to become an extreme option. When the extreme option is chosen the game ends.

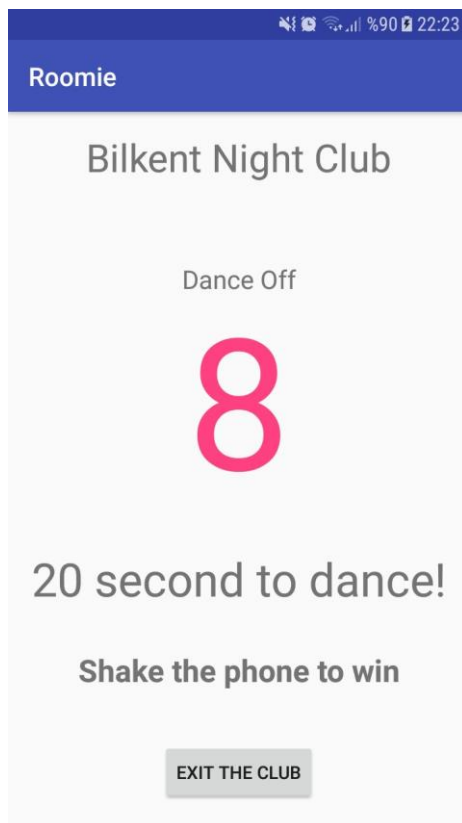


- If the prompted question allows the user to visit Cafe Outdoor Environment, the user sees this screen which allows it to buy various food items from Cafe menu. This food items have different prices and different effects on player's health. The choice made by the user affects its status bars.

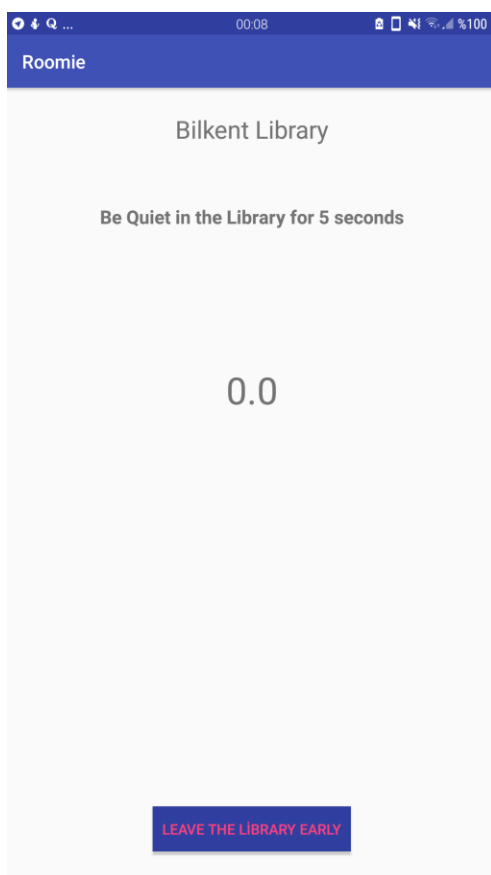


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- This screen appears after pressing backpack button. It shows the items in users backpack. It allows using or selling items by choice. The user can also use or sell all items that are currently in its backpack.



- This screen appears after pressing Disco button. The number below Dance off represents shake amount. It increases as the user shakes the phone more frequently. Also there is a count down, if the user stops shaking the challenge is not completed successfully. If the user can shake the phone for the given amount of time the challenge is successfully completed. The results of the challenge are reflected to users stats bars.



- This screen appears after pressing Library button Double Number in the middle of the screen represent the maximum amplitude in 0.1 second interval. The amount of time required to complete the challenge is 5 seconds and can be adjusted. If the user can complete without triggering the maximum Db threshold for the given amount of time, the challenge is successfully completed. The results of the challenge are reflected to users stats bars.