CS 319 - Object Oriented Software Engineering

System Final Report

Iteration 2

Road Block

Group 1A

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Introduction

Implementation Process

We have begun with our development process at the end of our first iteration. We arranged multiple meetings per week in order to stick to a certain schedule. Even though we have decided to go with a "division of labor" way; we kept the number of meetings to a minimum of 2 each week. By this way, we aimed to achieve a interactive programming environment.

Every single person in our group contributed to our reports on different levels and we have brought our individual work to a whole during our meetings, after double checking each other's work. Each member of our group tried their best to contribute to group work meaning, none of us has tried to slip away from our personal responsibilities. This is probably one of the main reasons why we have not had any issues with our process so far.

After delivering our Project Design Report we have decided that we need to speed things up with our development process and started coding more. We have again distributed our workload as we did in our reports and started coding. However, after a while, we have come to an agreement that communicating using our mobile phones is slowing us down. Therefore instead of coding separately, we have decided to hold coding sessions in addition to our weekly group meetings. This process was most useful for debugging since we now had 5 more pairs of eyes to see what was wrong with a certain code segment that is causing an error. This process was also beneficial for us while doing our research about singleton pattern and how to implement it in our project.

Lessons Learnt

Through this iteration, we have discovered each other's abilities. Meaning, our team consists of different members equipped with different abilities. By distributing our work proportionally with our skills (assigning work based on skill and demand) we have obtained a group that is fun to do a project with, rather than a one turning into a nightmare.

We also have learnt about the implementation of the GUI in detail.In this project,we make use of serialization pattern. In this iteration, we have had the opportunity about design patterns and object-oriented approach as we design our classes and their abstraction and encapsulation. Polymorphism was one of our priorities. We wanted to use as many methods as possible. This was a huge opportunity for us to try and learn these concepts. Also, we learnt how architectural styles work and why they are important. We worked on making the architectural styles to be seen on each part of the game.

What is missing and what is changed

In our iteration two, we do not think that there is anything missing left. We have come up with even more features that were specified in our previous iterations and all of them work just as in the way we want them to. These further changes include, 'P' and 'C' shaped game blocks. The 'C' block has two different forms : one with a 1 police car in it and another one with 2 police cars in it. All the changes were briefly introduced in our reports and will be mentioned during the presentation and demo.

Design Changes

Low Level Design Changes

There were not any significant low level design changes made during this iteration.

High Level Design Changes

There were not many important changes with our high level design. We stick with the information that was proposed in our design report iteration 2 and still are thinking that the pattern and design of our project offers us a more neat and clear code. We still rely on singleton pattern design when it comes to the implementation of our GameEngine platform.

Main Menu Screen

This is the Main Menu Screen that offers starting a "New Game" , "Help", "About Us",

"Settings" and "Exit Game" .By clicking "Exit Game" ,user is able to exit and close the game.
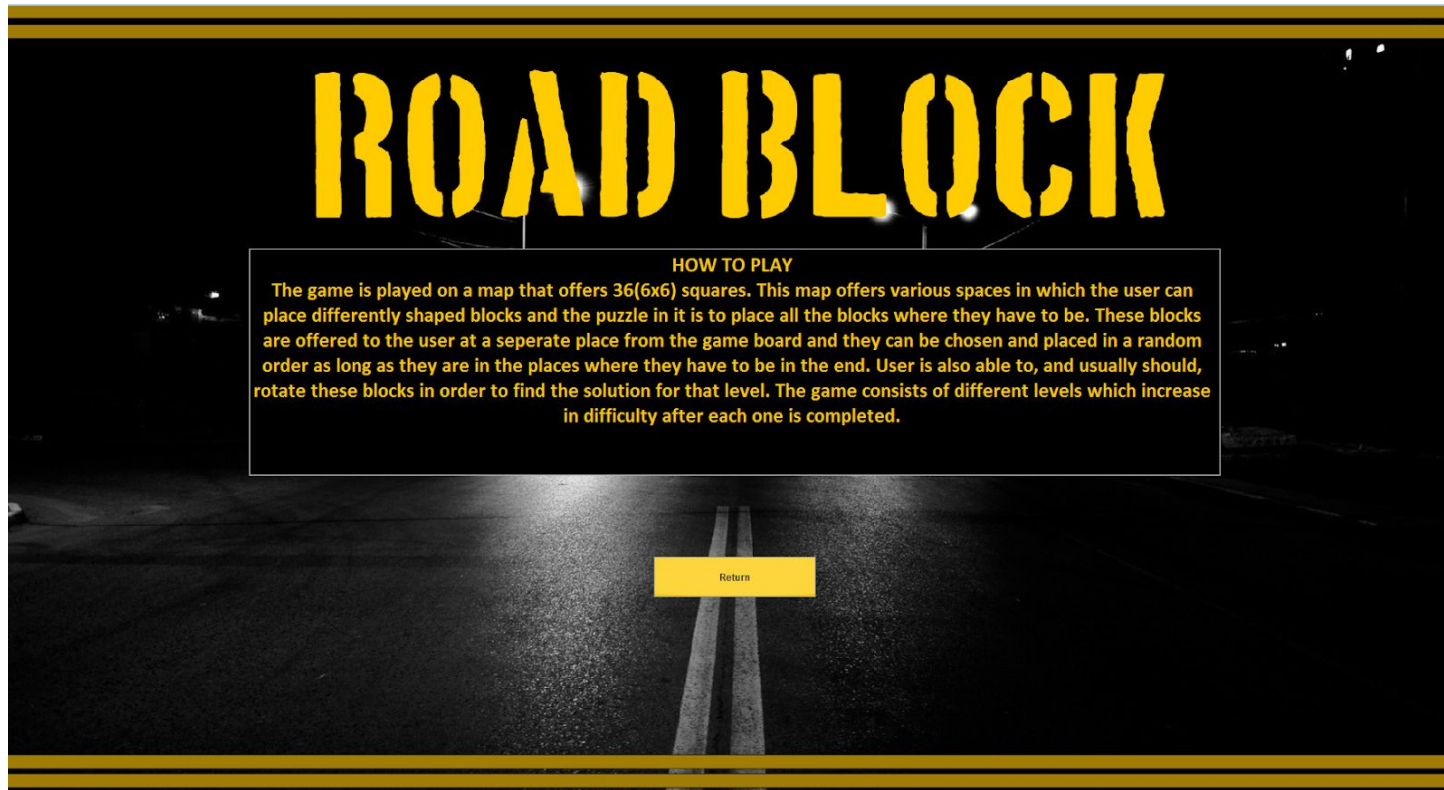
Choose Difficulty Screen
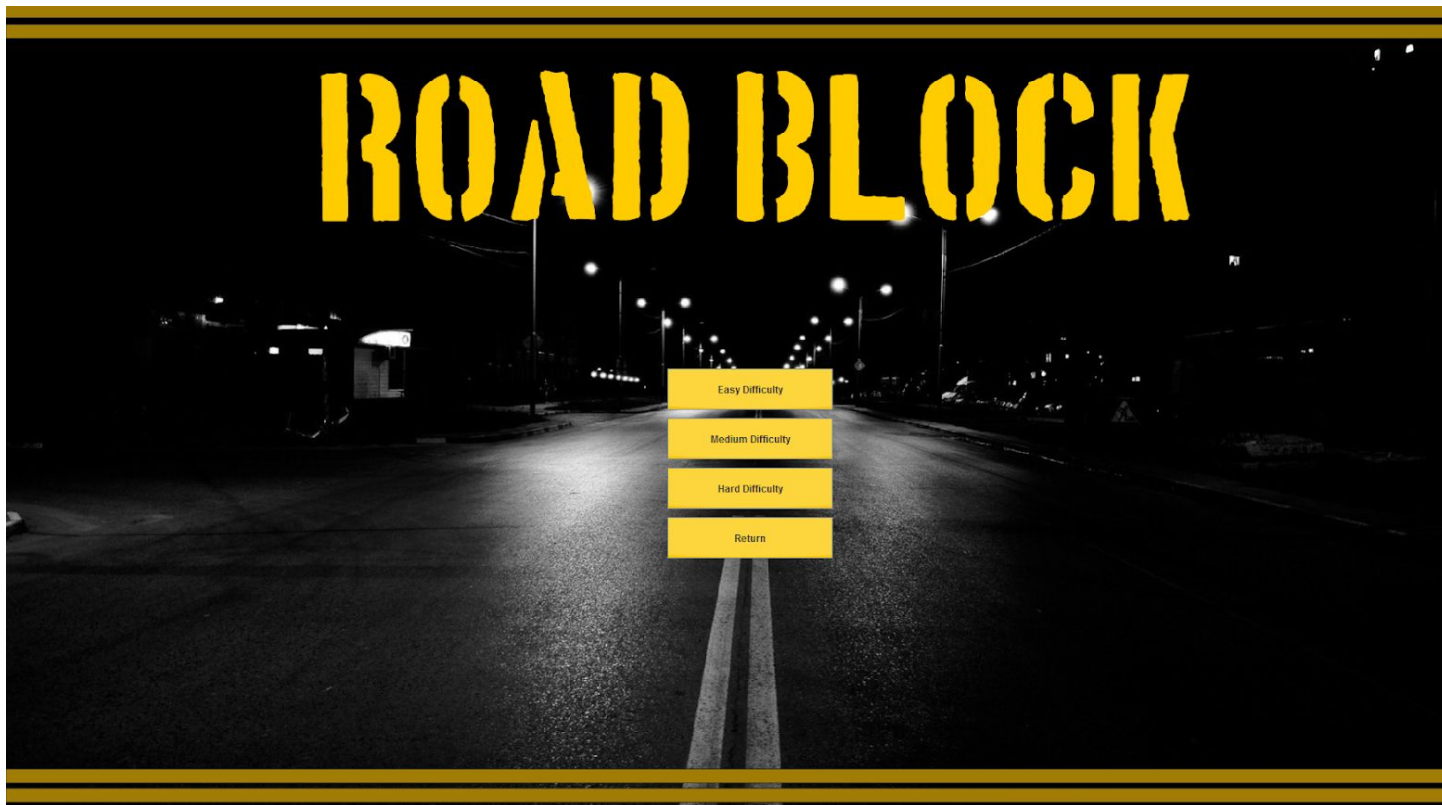
After pressing "Play Game",in this screen user is able to choose a difficulty to play in.

Choose Level Screen

In this screen, user is able to choose a level from the difficulty they have selected.

How to Play Screen

From this page user is able to obtain detailed information about how to play the game and the

components that take part in it

About Us Information Screen

This page gives brief information about the developers of the Road Block project.
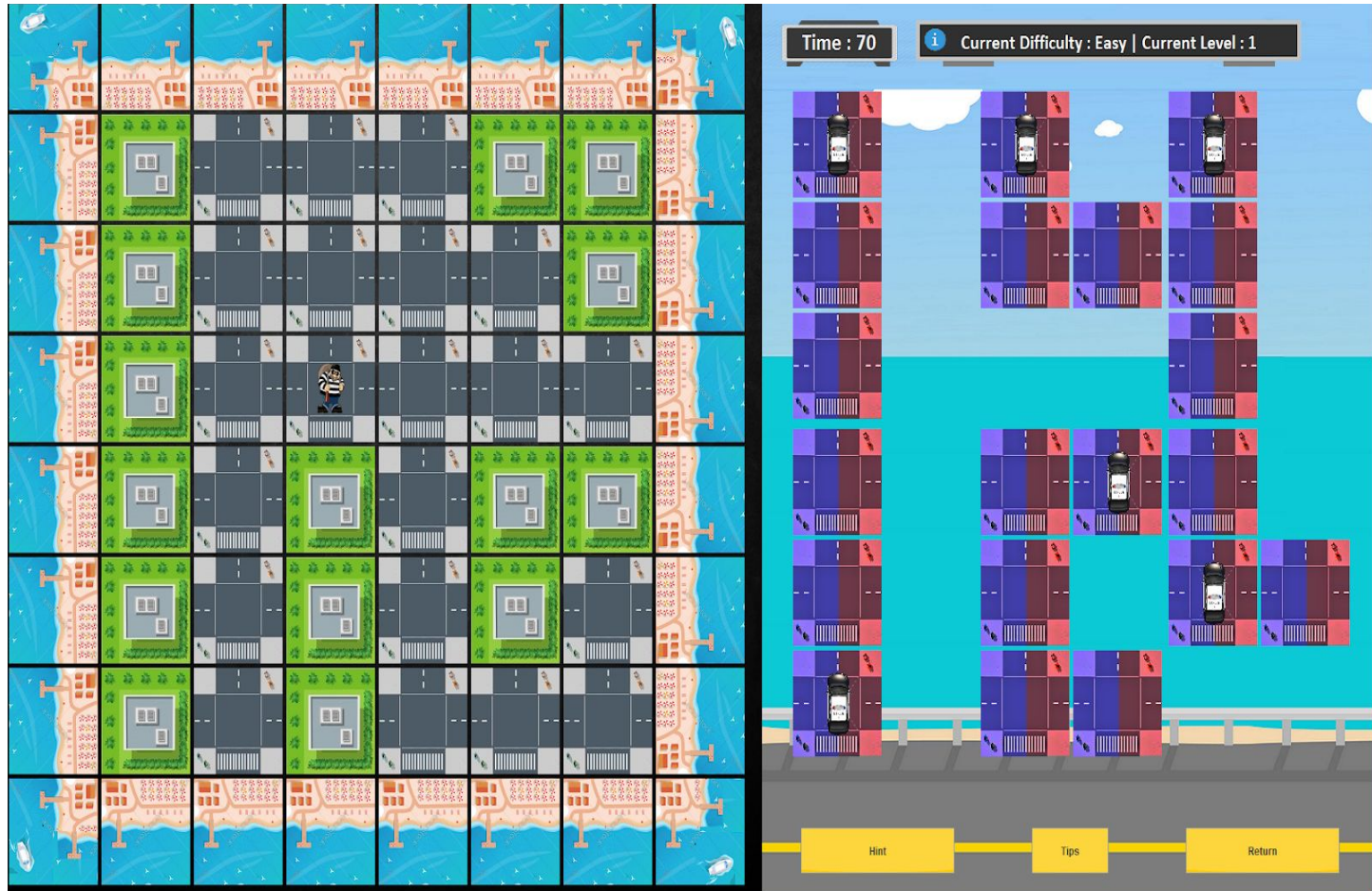
Settings/ Sound Preferences Screen

From this page,user can turn on/off the music.

"Effect turn off/on" option allows the user to toggle between the choice that whether they want sound effects or not.

"Return" option returns to the main menu.

Active Game Screen

This is the main screen that is displayed during the gameplay. Meaning, this is the environment

on which the gameplay will be conducted on. Using the blocks on the side-map(right), user will

fill the roads of the main map(left) to prevent the thief from escaping.

Level Victory Screen

After completing a level, the user will see the screen above; allowing them the options to return to main menu and proceeding to the next level while displaying "victory" on the screen.

Defeat Screen

This is the screen that is shown to the user if the user misplaces the blocks on the map and can not prevent the thief from escaping it. The screen offers the options to play the level again and returning to the main menu.

Work Allocation

- Reports (Analysis, Design, Final)

  All team members contributed almost equally in every reports.

- GUI

There are several panels in our game

Selim Can Gülsever: Game Panel (basically all the things about the map creation)

Serkan Delil: Start Panel, About Us Panel, Settings Panel

Cavid Gayıblı: Easy, Normal, Hard Panels

Denizhan Soydaş: Game Victory Panel, Game End (Lost) Panel

Kaan Atakan Öztürk: Start Panel, Main Panel

Deniz Ufuk Düzgün: Options Panel, Settings Panel

- Game Engine

Selim Can Gülsever: Creator of Road class. Creator of Entity class. Algorithm for the game.

Serkan Delil: Contribution to algorithm for the game. Added time function to the game and algorithm for calculating score (out of 5 stars).

Cavid Gayıblı: Contribution to Police class. Created new pieces such as C, S, and P shaped police blocks. Contribution to Map class. Created several maps.

Denizhan Soydaş: Creator of Entities such as Police, Thief, Tunnel and etc.

Kaan Atakan Öztürk: Contribution to Map class. Created several maps.

Deniz Ufuk Düzgün: Contribution to Map class. Created several maps.