COMP20050 Assignment 4

echo

April 9, 2022

Abstract

Blokus Duo sprint 4 report. This document describes:

- the design decisions we made to implement the features required in this assignment
- screenshot(s) of our Trello board showing the tasks and their allocation to team members.
- test plan describing any manual and automated tests we did.

Feature Planning & Implementation

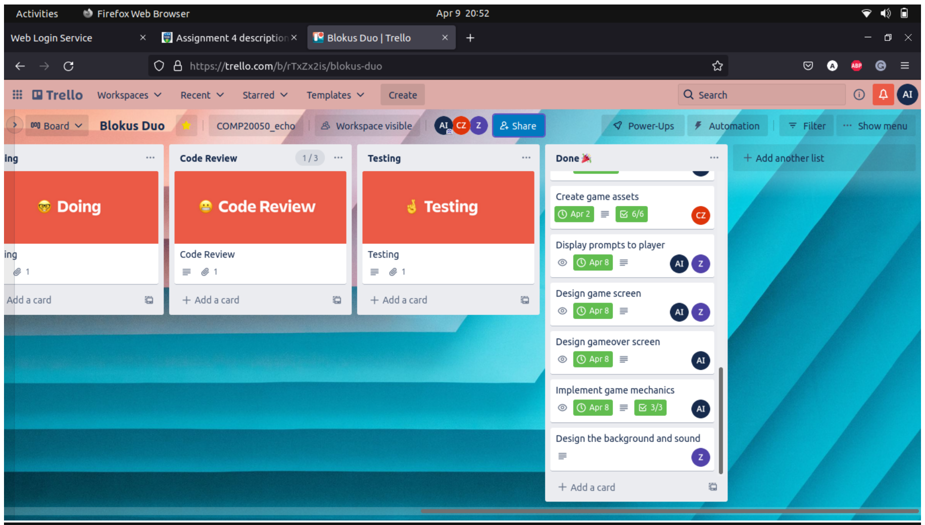
For this sprint we created multigle gui screens to display different aspects of the game.

Game visual and sound design
The assets used in the project were acquired by a team member and loaded into the game with libgdx utilities. The background was drawn in each screen using Texture and SpriteBatch classes to give the game its unique look and feel. Widgets were added to provide functionality to navigate the different screens. The game screen uses a tiled map to display the board and the background images, and decicated GraphicalPiece instances to draw piece squares as Textures in the shape of the piece.

Player prompts
Messages were displayed to the player using either messageboxes or by drawing text directly onto a plain background depending on the screen and whether the message had a corresponding action. They were passed from the gameplay thread to the display by posting runnables accross the threads.

Game mechanics
A GameScreenInputProcessor class was designed to detect user input for selecting, manipulating and placing pieces. Additional functionality was added to display hints if the key 'H' is pressed after an invalid move has been attempted by extending the InputAdapter Interface. Additional classes were implemented to represent the graphical pieces and board so that they could easily be drawn. This also made it easier to determine where clicks landed and change the position of the pieces on the screen.

Trello Board



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Doing

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1

Add a card

Code Review 1 / 3

Code Review

Code Review

1

Add a card

Testing

Testing

Testing

1

Add a card

Done 🎉

Create game assets
Apr 2 · 6/6 · CZ

Display prompts to player
Apr 8 · AI Z

Design game screen
Apr 8 · AI Z

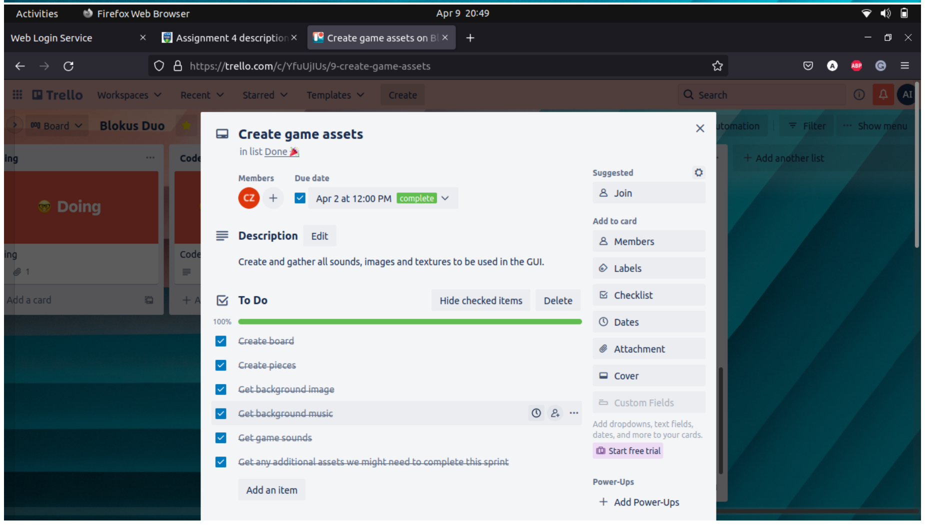
Design gameover screen
Apr 8 · AI

Implement game mechanics
Apr 8 · 3/3 · AI

Design the background and sound
Z

Add a card

Add another list



Create game assets

in list Done 🎉

Members: CZ

Due date: Apr 2 at 12:00 PM complete

Description Edit

Create and gather all sounds, images and textures to be used in the GUI.

To Do Hide checked items Delete

100%

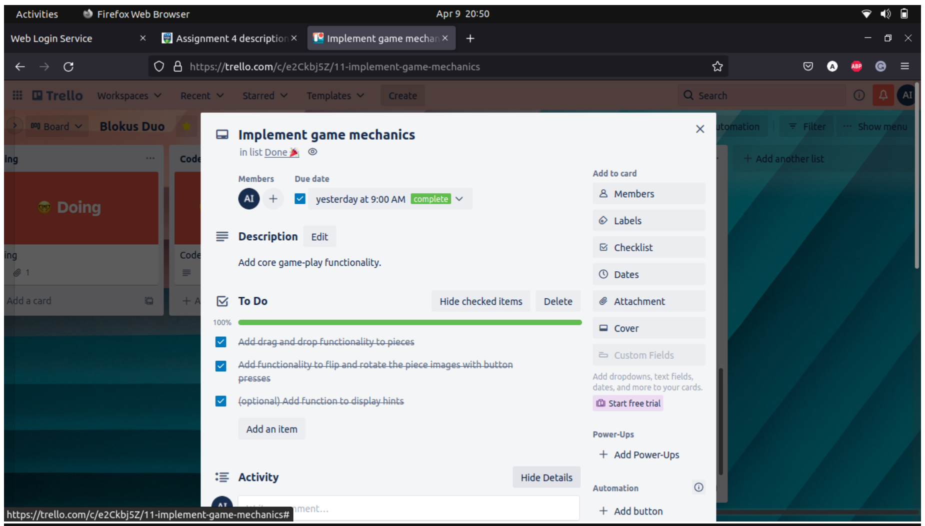
- [x] ~~Create board~~
- [x] ~~Create pieces~~
- [x] ~~Get background image~~
- [x] ~~Get background music~~
- [x] ~~Get game sounds~~
- [x] ~~Get any additional assets we might need to complete this sprint~~

Add an item

Suggested
Join

Add to card
Members
Labels
Checklist
Dates
Attachment
Cover
Custom Fields
Add dropdowns, text fields, dates, and more to your cards.
Start free trial

Power-Ups
Add Power-Ups



https://trello.com/c/e2Ckbj5Z/11-implement-game-mechanics

Implement game mechanics

in list Done

Members: AI

Due date: yesterday at 9:00 AM complete

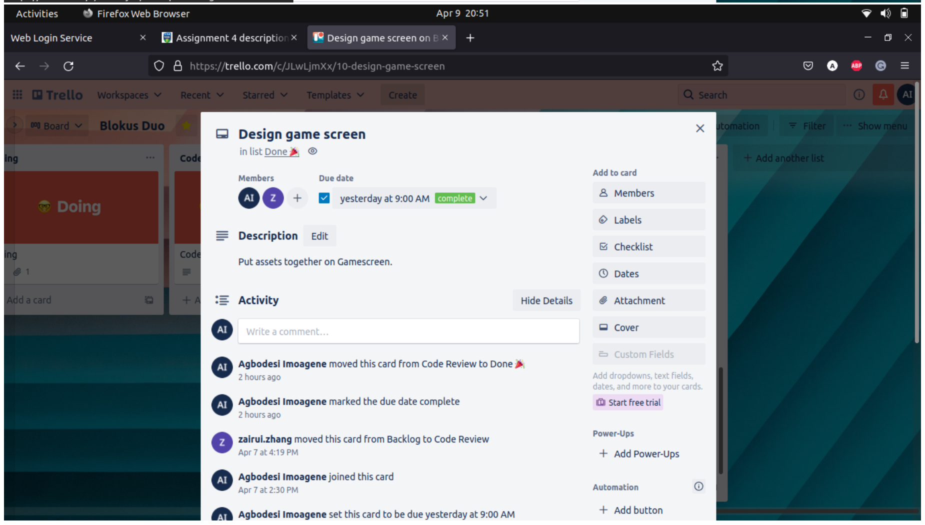
Description

Add core game-play functionality.

To Do

100%

- [x] ~~Add drag and drop functionality to pieces~~
- [x] ~~Add functionality to flip and rotate the piece images with button presses~~
- [x] ~~(optional) Add function to display hints~~



https://trello.com/c/JLwLjmXx/10-design-game-screen

Design game screen

in list Done

Members: AI Z

Due date: yesterday at 9:00 AM complete

Description

Put assets together on Gamescreen.

Activity

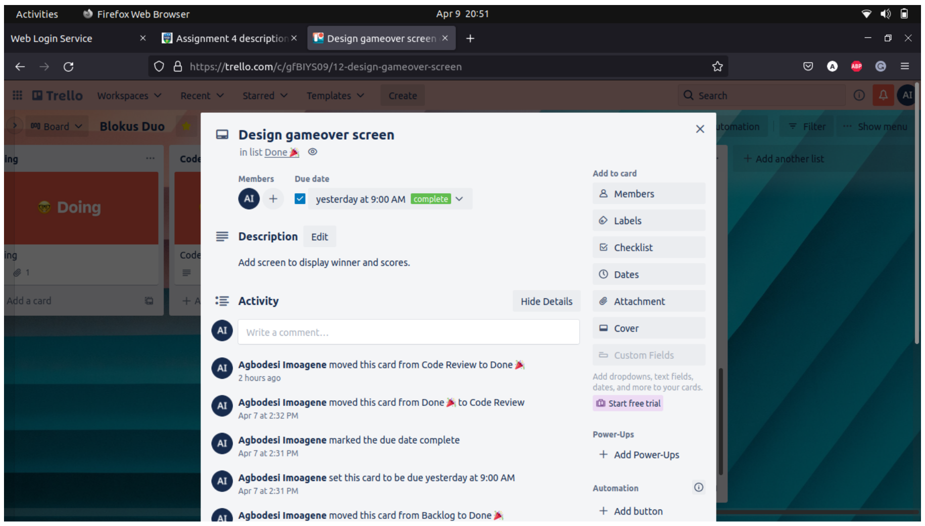
Agbodesi Imoagene moved this card from Code Review to Done
2 hours ago

Agbodesi Imoagene marked the due date complete
2 hours ago

zairui.zhang moved this card from Backlog to Code Review
Apr 7 at 4:19 PM

Agbodesi Imoagene joined this card
Apr 7 at 2:30 PM

Agbodesi Imoagene set this card to be due yesterday at 9:00 AM



Design gameover screen
in list Done

Members: AI
Due date: yesterday at 9:00 AM complete

Description Edit

Add screen to display winner and scores.

Activity

Agbodesi Imoagene moved this card from Code Review to Done
2 hours ago

Agbodesi Imoagene moved this card from Done to Code Review
Apr 7 at 2:32 PM

Agbodesi Imoagene marked the due date complete
Apr 7 at 2:31 PM

Agbodesi Imoagene set this card to be due yesterday at 9:00 AM
Apr 7 at 2:31 PM

Agbodesi Imoagene moved this card from Backlog to Done

The board can be accessed with this link: `https://trello.com/b/rTxZx2is/blokus-duo`

Test Plan

We changed the structure of the JUnit tests by creating separate test classes for each of the model classes to increase the code coverage. The focus was shifted to test the internal fileds of game mode classes rather than IO operations.

We implemented JUnit tests to for the command line arguments. In addition, the updateBoard method was tested for latency and the thrown exceptions were inspected.