

CMPT 276 Project - Phase 2

v1 (06-15)

Project overview

In this phase, you will create a working prototype for your board game.

Your Phase 1 submission is not considered when marking Phase 2 or 3. You may change any part of your design, including implementing a different board game.

UI Prototyping

Each member of your team will create two UI prototypes:

- One prototype is for the main gameplaying interface.
- One prototype is for any other interface.

For example, if there are four members in your group, then you will have 4 prototypes for the main gameplaying interface, and you can have 2 prototypes for the “Settings” interface and 2 prototypes for the “Main Menu” interface.

Compare these prototypes in group discussions and analyze their strengths and weaknesses. Your discussion should reference UI design principles such as the ten heuristics of the Nielsen Norman Group. Describe how your final UI evolved from each prototype by incorporating the strong elements of each prototype, and what new design elements you created after the discussion.

Design patterns

You are required to use at least 3 design patterns in your code. Singleton **cannot count as 1 of the 3**.

You will need to discuss each pattern. Your discussion should:

- Point out how you implemented each design pattern (including where it is in your code).
- Discuss why you chose that design pattern
- Discuss how the design pattern improves your codebase

You will be graded based on correct understanding of the design pattern and the usefulness of that pattern to your code – trivial implementations (e.g. a Prototype that is almost never used) score less.

Build automation

You will submit source code, not pre-built software, and we will build and run your source code. We will test your code in Linux. If necessary, you should learn and use build automation in order to

C++: `make; ./game`

- `make` references the Makefile to compile your code in the right way.

Java: `bash maven.sh; java game`

- `maven.sh` should include the maven commands required to compile the program.

Python3: `python3 game.py`

C#: `bash mcs.sh; ./game`

- `mcs.sh` should contain the required Mono commands to compile on Linux.

Please e-mail me if you are using another language.

Playable prototype

Once built, your game should be a playable prototype. This includes:

- The player can start a game.
- The player can interact with some game pieces and make a move.
- The player can end the game.
- An AI can make some sort of move.
- The player can still move after the AI's move.

It is not necessary for the game to be fully playable. In other words, it is not necessary to implement any sort of game rules yet, and it is not necessary that all possible manipulable game pieces are available.

Submission

- We will download your submissions from Github on the due date.
- Your Github should contain all necessary code to build a playable prototype.
- Your Github should contain a PDF file called `phase2.pdf` that contains all written portions of this phase. This includes the UI Prototyping and Design Patterns sections.

Grading

- 30%: UI Prototyping
 - Quality of prototypes: 10%
 - Comparison of prototypes with reference to UI design principles: 10%
 - Discussion of how your final UI evolved from each prototype: 10%
- 45%: Design Patterns
 - Discussion of each design pattern: 5%
 - Correct implementation of each design pattern: 5%
 - Quality and usefulness of each design pattern: 5%
- 25%: Buildable and playable prototype