

FIT3077: SOFTWARE ENGINEERING: ARCHITECTURE AND DESIGN

Sprint 1 (20%)



MONASH
University

Done By

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Team Information

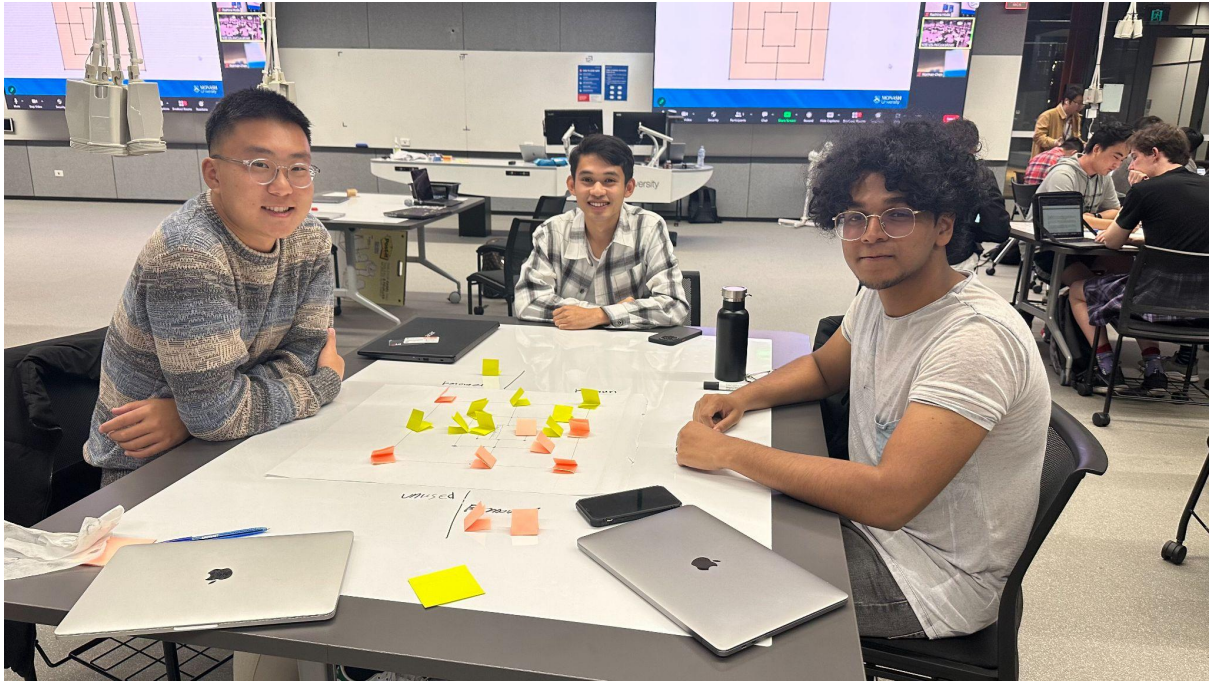
Team introduction

The team name chosen for our team is K.S.N. Our team consists of 3 members which are Sok Ear, Shillong Xiao, Kisara Batugedara. The detail of our team member is outlined below

	Student ID	Contact Detail	Technical skills	Fun fact
Shillong Xiao (Norman)	30257263	sxia0014@student.monash.edu	front end, design, Interactive interface	Only uses only mechanical keyboard
Sok Ear	32442688	sear0002@student.monash.edu	front end, web development	Likes korean Barbeque
Kisara Wethmin Batugedara	30912539	kbat0008@student.monash.edu	Design documentation, Front end mockups, Web Development	Is a music producer

Team photo

Our team photo is attached below. Shillong Xiao is on the left, Sok Ear is in the middle and Kisara Wethmin Batugedara is on the right.



Team schedule

Our team will aim to meet once a week. This will be done on Wednesday at 3pm at Monash University.

A weekly meeting on Sunday at 7pm can also be held if necessary.

Workload Distribution

Everyone will be involved in each task. The tasks will be split into small pieces and each of them will be assigned to each team member while taking into consideration of their skills and capabilities.

We will follow the agile development method to deliver weekly meetings. During the meetings we will discuss the work from the previous week and set up the goal for the following week. The team will form a meeting in order to discuss task allocation and will try to make sure that everyone is happy with the allocation.

Task Management

The team will use Trello to keep track of tasks statuses which are uncompleted, implemented and completed . All the tasks will be listed on the Trello Board. Team members will update the status of each task everytime it changes so that its progress can be tracked easily.

Each task will be assigned a deadline by which team members have to complete. If a team member is unable to complete the task assigned, the team member can communicate with

the team so that other team members can provide assistance, thereby ensuring that the work can be completed in time.

Tech stack

The main programming language we agree on is **Java** and we would like to build Graphical User Interface using **Swing**.

Programming language

The reason we chose Java is that everyone in the team is familiar with the language and had experience with building the game with Java as the main language. Java is very supportive of object-oriented programming and it helps enforce basic principles of good programming practices. Java is also not platform dependent therefore it will work on any operating system, which is an important criteria since our team members will use different operating systems (MacOS and Microsoft Windows)

One alternative that was considered was Python. This is because Python supports object oriented programming, which will aid in the development of the game while also helps ensure adherence to good coding practices. However, one drawback of python is that it is not strictly typed. This means that it is more prone to type-errors at runtime which can make debugging difficult and time-consuming. Moreover, Python is generally slower than Java at runtime. This is because python must be interpreted using C thereby slightly lowers its speed whereas Java can be compiled directly on the computer. For these reasons, Java is preferred over Python.

Since the team lacks experience with making mobile application games, we consider Java to be hard to implement in Web development with html and css. We decided to use Swing as the GUI to make the game mainly based on Java.

IDE and version control:

The IDE we choose is **IntelliJ** and everyone in the team is familiar with it. We will have the version control in Monash **Gitlab** to push our commits to the main branch.

Alternatively, VsCode could be used for the implementation of the software. However, this is discarded due to the following reasons:

- IntelliJ is designed specifically for Java and it provides code completion features specifically for Java. For example, the user can automatically generate setters and getters for a class. IntelliJ IDEA provides the ability to set up the default method for a class that implements a particular interface. These tools provided can assist the code writing process thereby helping improve efficiency.
- IntelliJ has a more powerful refactoring tool compared to Vscode. This is an essential criteria as this project will require a lot of requirements and scope change in the future. Thereby, having these tools already available will aid in the process.

Advanced requirement and justification:

In this project we will be implementing the advanced requirement A to build an additional hint button in the UI to indicate the possible legal moves for players as well as make a tutorial mode for the beginning players to get to know the games before playing.

In the tutorial mode, the players will get to play a demo of the game where they will receive text explanations of different rules/scenarios of the game.

In terms of the hint, we are planning to make a hint button on the interface. When the user hits the button all the possible positions on the board that the players can move to will start glowing. Currently, we are not yet able to find a good Java library to assist with this function. We might need some advice from tutors on how to achieve this function.