

FIT3077 Sprint 1

CL_Monday06pm_Team095

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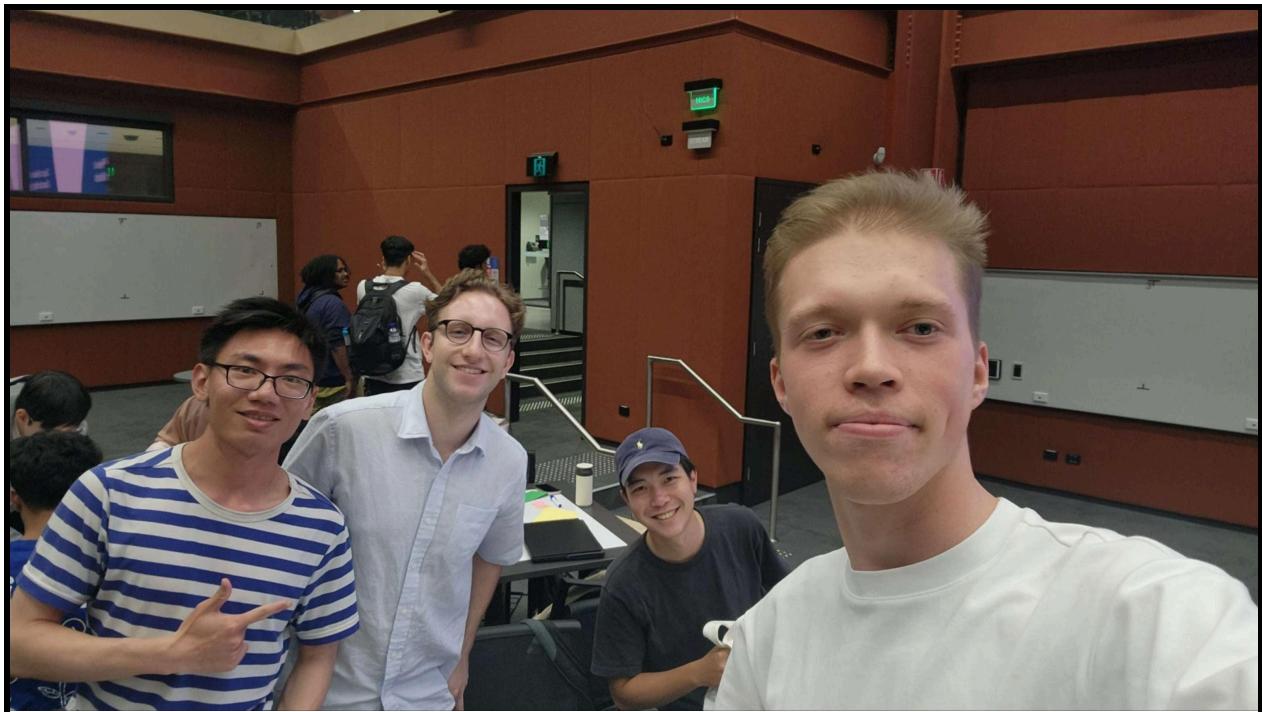
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Team Information

Team name

Studio V.O.T.A.

Team photo



Team membership

Team member	Contact Details
Oliver Sirota	0499 577 855, osir0002@student.monash.edu
Vladyslav Volovchuk	0476 469 402, vvol0002@student.monash.edu
Tien Nguyen	0435 169 428, tngu0394@student.monash.edu
Aun Lim	0478 119 119, zlim0020@student.monash.edu

Team member	Technical Strengths
Oliver Sirota	<ul style="list-style-type: none"> - Experience in both Python and Java - OOP experience - Git experience - Experience in wireframing and storyboarding - Interface design experience in Figma - Basic Unity game development experience
Vladyslav Volovchuk	<ul style="list-style-type: none"> - C# - Java - OOP - SQL - Agile project management - Interface design in Balsamiq - Lucidchart
Tien Nguyen	<ul style="list-style-type: none"> - Git - JAVA - Python - Agile - HTML - CSS - cakePHP
Aun Lim	Java, Python, Javascript

Team member	Professional Strengths
Oliver Sirota	<ul style="list-style-type: none"> - Professional experience working in a team at an IT consulting firm for 6 months (IBL) - Developed time management, project organisation, teamwork, communication skills
Vladyslav Volovchuk	Time management, teamwork, multitasking
Tien Nguyen	Critical thinking, teamwork, the ability to solve problems
Aun Lim	3 years of work experience in project management and marketing

Team member	Fun Fact
Oliver Sirota	Won high school Pi reciting competition by memorising Pi to 144 decimal places in year 7
Vladyslav Volovchuk	Collects coins
Tien Nguyen	Interested more in business side
Aun Lim	Can make the greatest Pina Colada of all time

Team Schedule

Day	Time	Meeting Type	Notes
Monday	6pm - 8pm	F2F	During the workshop
Monday	8pm - 9pm	F2F	After the workshop
Tuesday	12pm - 3pm	F2F/Online	On campus or on Discord
Thursday	12pm - 1pm	Online	On Discord

Workload Distribution and Management

The team information section was developed together by the team. The meeting schedule and technology stack decisions were made by the team in meetings. Each member of the team was assigned a section of the assignment that they would be in charge of. Sections of the assignment were assigned to each team member based on a First-Come First-Served (FCFS) preferential system. The first member to choose a section of the assignment would become responsible for it. This system was selected to be fair and equitable to each team member, and encourage proactivity in selecting and working on a section of the assignment.

The rest of the team would make contributions to each section and provide support and assistance where required, however the team member in charge of each section would be responsible for ensuring that the section was completed to a satisfactory standard. This also involved the regular review of each other's work, both in and outside of meetings. Vlad was in charge of the Domain Model, Aun was in charge of the Low-Fi Prototypes, Tien was in charge of the user stories, and Oliver was in charge of the Team Information section, report formatting, and report submission. Each team member made contributions to each section.

Technology Stack and Justification

Python and Java were both considered as programming languages to develop the game. Every team member has experience with Java, however not every team member has experience with Python. As Vlad has minimal experience with Python, our team was more inclined to select Java. The PyGame library was also considered, however only Oliver had experience using it, and it might be too complicated and difficult to learn and use for the team members with no experience with it. With the decision not to use the PyGame library, and with the team all being comfortable with Java, it was decided we would use Java and not Python.

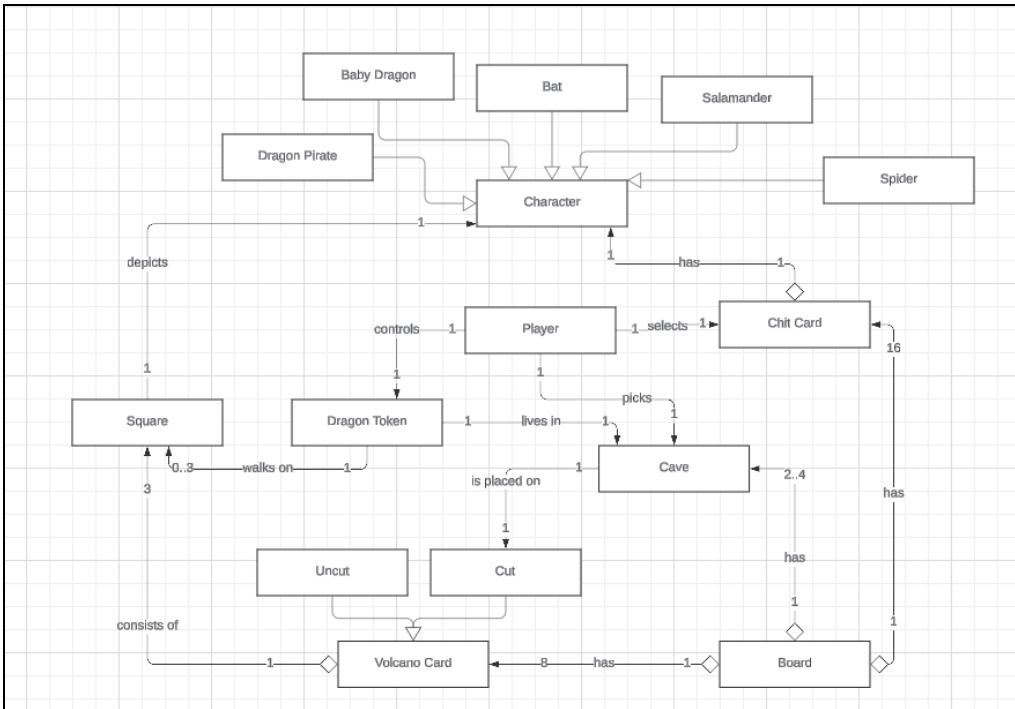
As an IDE, IntelliJ was selected as Oliver and Aun both have experience with it, and it is incredibly intuitive and useful for writing Java code and managing Java projects. From research and word of mouth, javaFX was selected to be used for the game's UI and graphics, and Launch4j was selected to create the executable file. Similarly, the FXGL library was also selected as a 2D game development framework which is based on javaFX. We anticipate needing assistance from the teaching team with the java libraries - javaFX, FXGL, and Launch4j.

User Stories

1. As a player, I want to see the content of my selected chit card, so that I know how many spaces to move and can memorise its content for future turns
2. As a player, I want to be shown the rules, so that I can understand how to play the game
3. As a player, I want to be able to see my dragon's position on the board, so that I know how close I am to my starting cave to win the game
4. As a player, I want to be able to see the positions of my competitor's dragons on the board, so that I know how close I am to winning in relation to my competitors
5. As a player, I want to be able to see the character associated with the square I am on, so that I know which character I should be trying to reveal in my chit card selection
6. As a player, I want to be able to see the characters associated with the squares behind and ahead of my position, so that I can plan for future turns
7. As a player, I want to know when it is my turn to play, so that I know when to make my move
8. As a player, I want to know the controls for the game, so that I can play the game and make my moves
9. As a game tester, I want to receive visual feedback on my inputs, so that I know how my inputs affect the game
10. As a player, I want to select a chit card, so that I can progress back around to my starting position
11. As a player, I want to move my dragon around the volcano, so that I can advance toward my cave
12. As a player, I want to select a cave, so that I can start from there
13. As a dragon, I want to stay on my square if the chit card would move me past the cave, so that I do not overshoot my starting position and fail to win the game
14. As a dragon, I want to stay on my square if the chit card would move me to a square with another dragon, so that I do not have to share a square with another dragon

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15. As a player, I want to be able to distinguish between my baby dragon and my competitor's, so that I can follow my position and progress in the game
 16. As a colour blind person, I want identical game objects to have colour-blind accessible colouring, so that I can distinguish between them
 17. As a player with poor eyesight, I want to hear when it is my turn, so that I know when to make my move
 18. As a player with poor eyesight, I want to hear when someone has reached their cave, so that I know when the game is over
 19. As a player with poor eyesight, I want to hear the contents of my selected chit card, so that I know the results of my selection and can plan for future turns
 20. As a player with poor eyesight, I want to be able to set the font size of text, so that I can comfortably read any text on the screen
 21. As a player with poor eyesight, I want to be able to comfortably see game objects, so that I know what is happening
 22. As a player with a faulty keyboard, I want to be able to modify key bindings if the currently set keys are not-functional, so that I can play the game
 23. As a player, I want to be able to check the rules at any time, so that I can be reminded and confirm how to play the game
 24. As a player, I want to be able to set the number of players, so that I can play with any number of friends

Domain Model



The proposed Domain Model for the game.

1. Provide a justification for each chosen domain entity and their relationships.

Board - the game environment where all components are located - Caves, Chit Cards, Volcano Cards and Dragon Tokens. There may be 2 to 4 Caves on the Board, 8 Volcano Cards and 16 Chit Cards.

Cave - the starting and ending point for the Players. Each Dragon Token has its own Cave. There are two to four Caves on the Board.

Dragon Token - this is the token that is moved by the Player along the Volcano Cards. A Dragon Token can make 0, 1, 2, or 3 steps forward, or 1-2 steps backward. Only one Dragon Token can be on a Square.

Volcano Cards - comprise the route around the Volcano which every Dragon Token has to move along. Each Volcano Card has three Squares. Every Volcano Card is either **Cut** or **Uncut**. The Caves are attached to Cut Volcano Cards.

Player - plays the Game by drawing Chit Cards and moving a Dragon Token along the Volcano Cards. There may be two, three, or four Players.

Square - a part of a Volcano Card. Each Card has 3 Squares. Each Square depicts either a Bat, a Salamander, a Spider, or a Baby Dragon. One Square may only house one Dragon Token.

Chit Card - is the card that, when picked, allows a player to move their Dragon Token. There are 16 Chit Cards on the Board. To move the Token forward, a character on the Chit Card must match the character on the current Square. When a Player picks a Chit Card that depicts a Dragon Pirate, the Token will move backwards.

Character - there are five characters: **Baby Dragon, Bat, Salamander, Spider, and Dragon Pirate**. All of them are depicted on chit cards. If a Dragon Pirate is picked, the player has to go backwards. If any of the other four animals are picked, and the animal on the Chit Card matches the animal on the Square, the player may make steps forward.

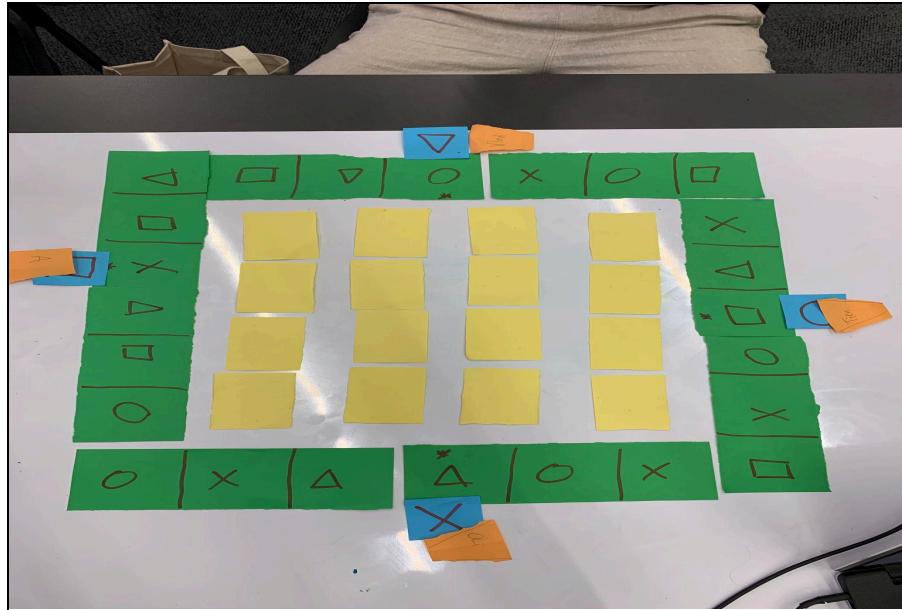
2. Were there any specific choices that you had to make while modelling the domain and WHY?

- **Separating the Player and Dragon Token entities.** In fact, a Dragon Token is controlled by a Player, so at first it may seem they are the same. But, in reality the actions performed by both of them are different. The Player picks a Cave, selects Chit Cards, and the Dragon Token simply moves around the “volcano”.
- **Introducing Board as an entity that encapsulates other entities.** The Board is where Volcano Cards, Chit Cards, Caves and Baby Dragons are situated. Without adding the Board to the list of entities, there would be no connection between the various components.
- **Introducing Squares.** Although Dragon Tokens move along the Volcano Cards, they make “steps”, and each step happens in a separate square, which is a part of a Volcano Card. It is important to add the Squares because a Dragon Token may move but still remain on the same Volcano Card.
- **Cut and Uncut Volcano Cards.** We introduced cut and uncut entities to distinguish between Volcano Cards that are connected to Caves and those that are not. In implementing the game, all caves will only be connected to cut Volcano Cards.

3. Explain any assumptions you have made, as well as any other part of your domain model that you feel warrants a justification as to WHY you have modelled it that way.

- **A Player may pick only one Chit Card at a time.** Every time a Player has the right to move, they may flip only one Chit Card. They may flip additional Cards, one at a time, until they lose the right to move. Then they have to wait for their turn again.
- **A Chit Card is associated with a unique character.** But the number of those characters on a Card may be one, two, or three.
- **The number of players will vary from 2 to 4.** That is why the number of the Caves on the Board may vary from 2 to 4 too.

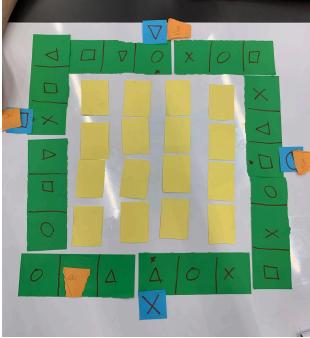
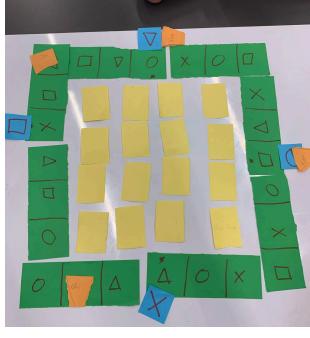
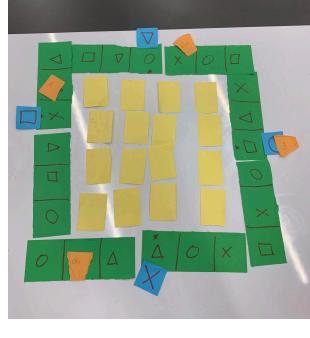
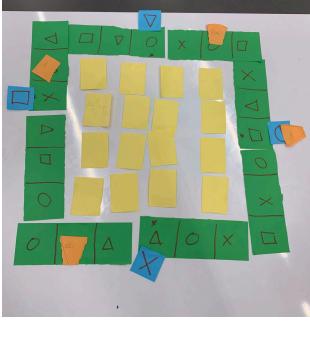
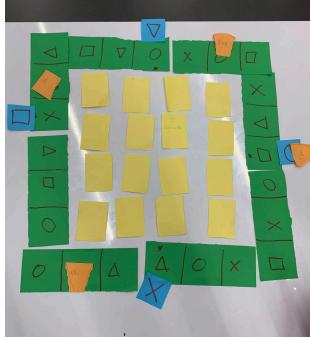
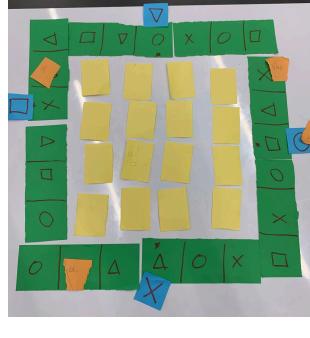
Basic UI Design and Low-fi Prototype

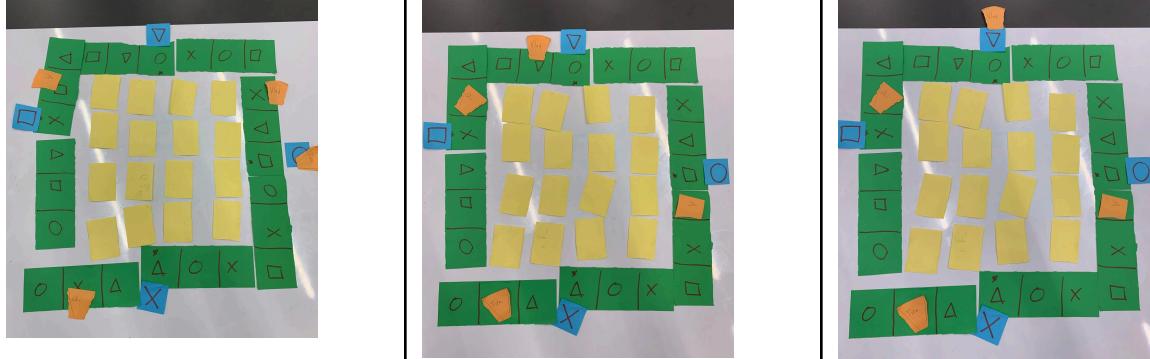


The proposed Low-Fi prototype of the game.

This is the low-fi prototype of our Fiery Dragons board game. In the prototype, the orange cards represent the dragon tokens which are the tokens representing each player. The blue cards represent the caves where the dragon tokens start and finish. The green cards represent the volcano cards, aka the game board. The yellow cards represent chit cards, which show how many spaces the dragon tokens will move. The x, triangle, square and circle symbols represent the baby dragon, salamander, spider and bat spaces.

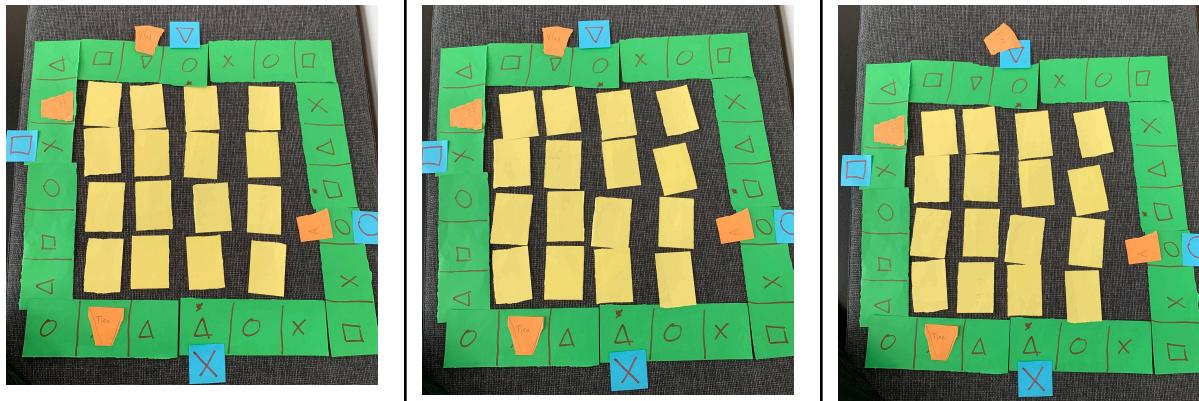
Start state.	Player on X cave opens a 2 X card.	Advances 2 tiles, opens a 1 Square chit card. Square and card do not match as he is now on an X square. Turn ends.

		
Player on Square cave opens a 3 Square chit card (top left on the photo).	Advances forward 3 tiles, opens a 1 Pirate Dragon chit card, moves back 1 tile.	Player on Triangle cave had already moved one step, and picked the right card again.
		
Player from Triangle cave advances one tile.	Player from Triangle cave picks the right chit card once again. It matched the figure on the tile.	Same player finally picks a wrong chit card. He has advanced most, but will stay until his turn comes.



The Player from Triangle cave has almost reached his cave. He picked the triangle chit card and would proceed to his cave.

The player from Triangle cave has won. He reached his cave first.



Player at the top is about to win, he needs a 2Triangle card.

Here he opens a 3Triangle card, which is too many steps, so he stays in place.

In this scenario, he instead opens a 2 triangle card, and wins the game.

Contributor Analytics

