Zoe Teoh

November 19, 2018

67-261: Exercise 2

Exercise 2

Title: Design a solution to help freshmen map the transition between high school and university life.

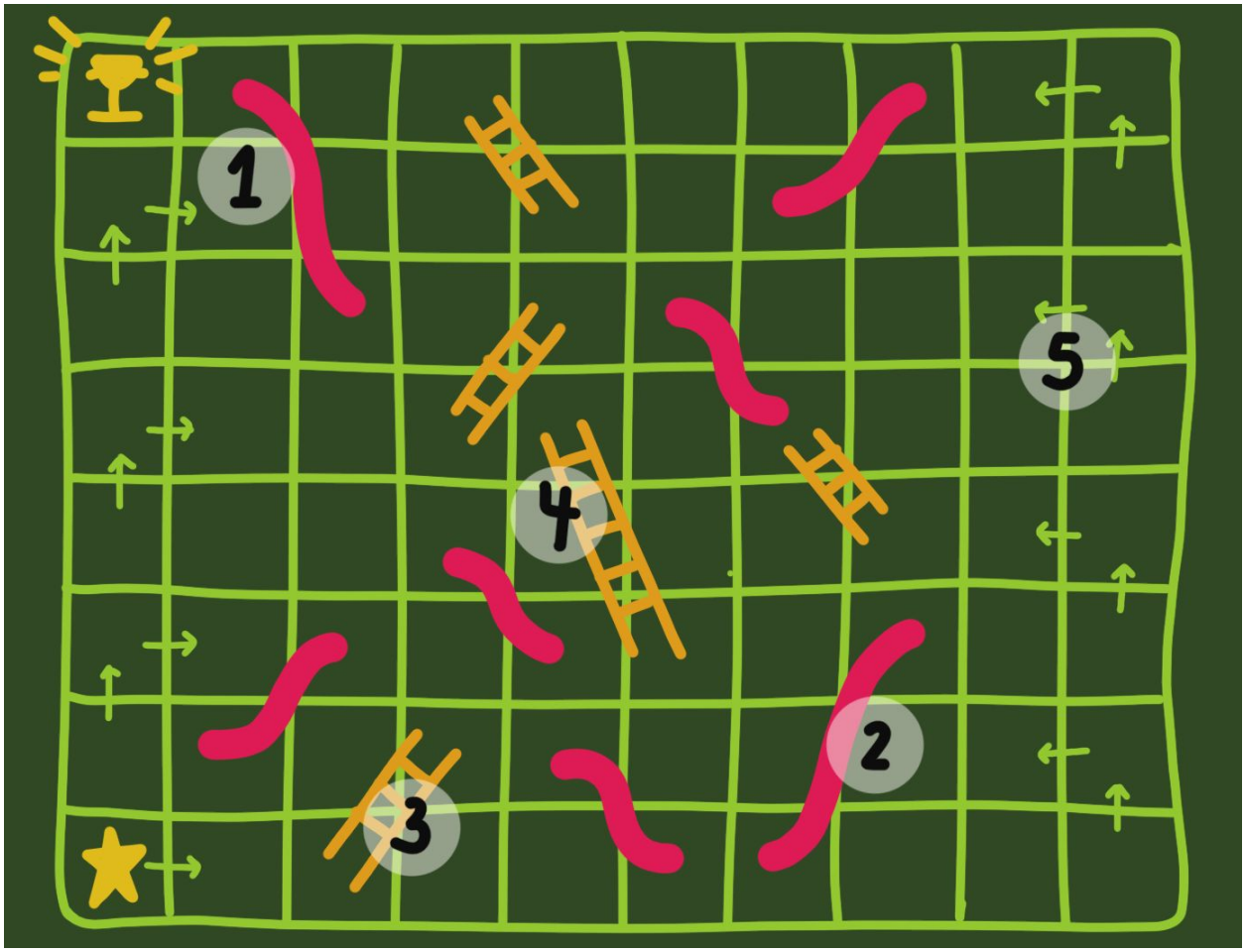
Your Name: Zoe Teoh

The Date: November 19, 2018

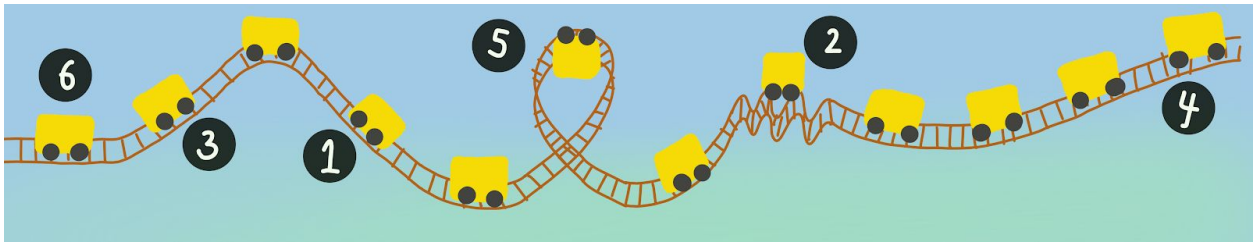
Background: Exploring how to represent time and the constant change in the movement of time- forwards, backwards and sometimes in circles, or the lack of change in the movement of time.

Goals of your work I wanted to explore how I can represent the constant changing of time in a static medium.

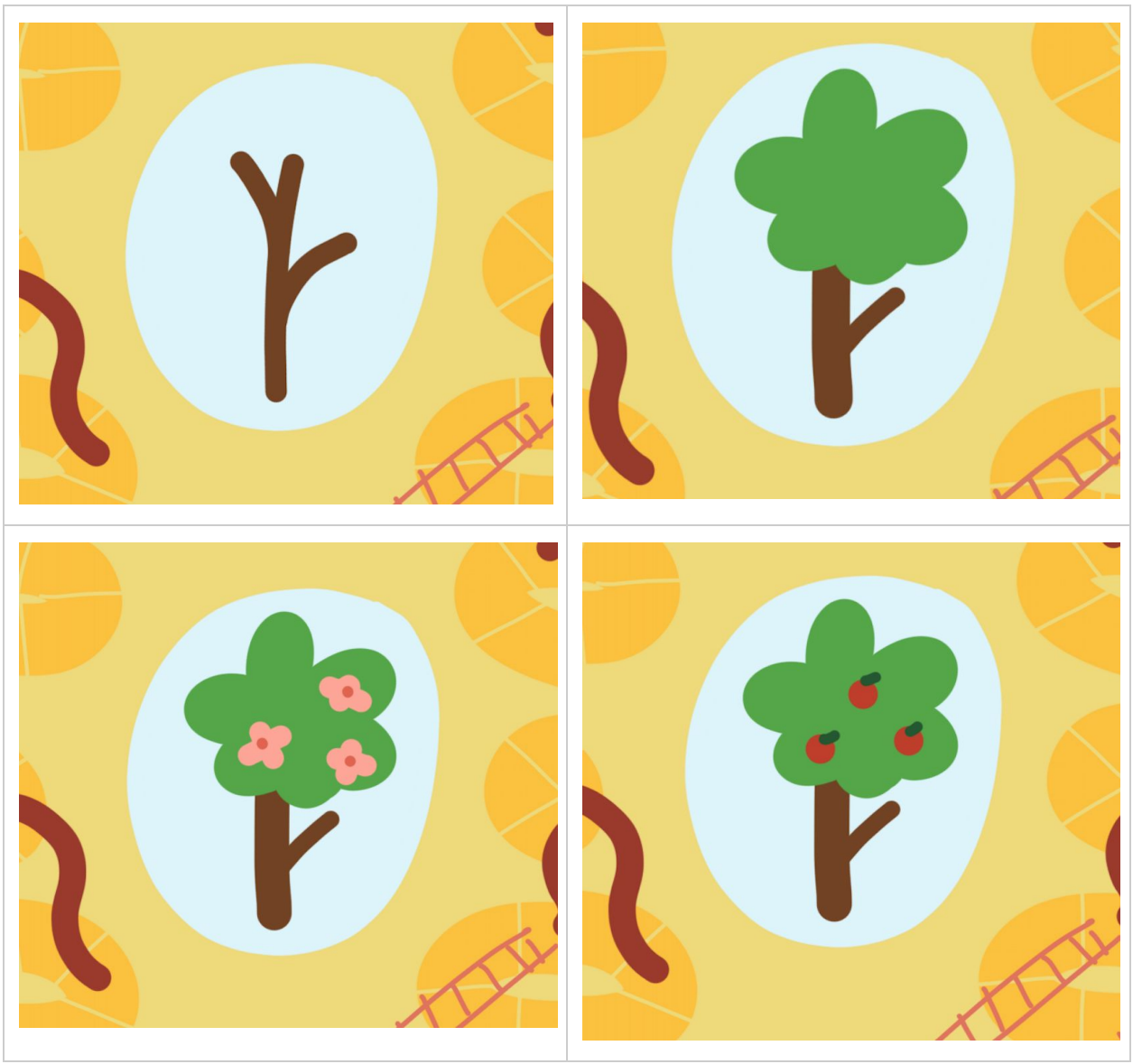
Initial Brainstorming



My first idea stems from snakes and ladders. When a student transition from high school to college, there is a constant change and sometimes when faced with challenges, there move closer to their goals. Other times, they might slip back into their old habits and fall back. The ladders represent a faster movement in time while the snakes represent moving backwards in time. The concept of time is rather tricky in this case because the steps each player takes depends on the number they roll on the dice. This reflects the real college experience where there is a lot of things that are beyond our control.



I feel like the transition from being a high school student to truly being a college student takes time and effort and that it is a constant process with its ups and downs. I wanted to represent these ups and downs as a roller coaster. I like this idea because I am able to represent a cyclical timeline in the form or a loop. This really captures the essence of being caught in a cycle where I can imagine it to be very confusing and disorienting. One thing I don't love about this representation is that the concept of movement of time is not always very evident since the roller coaster is constantly moving forward. By approaching the bottom of the page as "the past", it does not do justice to see the progress that a student have taken to reach the peak.



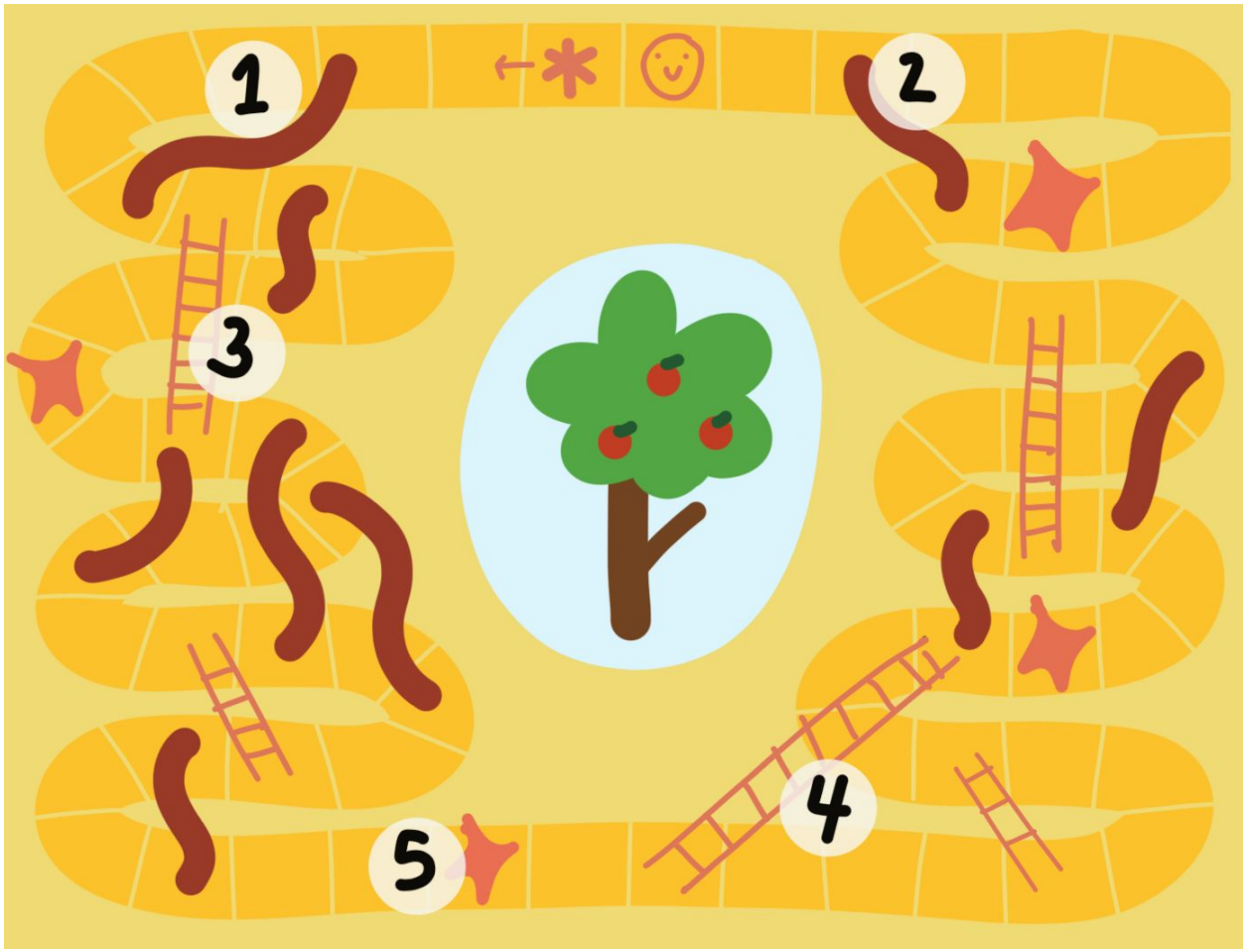
I see student life as going through the seasons. Sometimes I feel like I am going through a dry spell, where nothing is being done; other times, I feel like everything is going well and there are

times where I feel that I am finally bearing fruit and enjoying the fruits of my labor. This is why I was prompted to explore representing a student's transition as the grow of a tree. Even though the tree is constantly growing, there are a lot of seasons within that time period. As a small seeding, one can still be in the best of health; as an old oak, there are still times where things are bleak and nothing is green. I like this idea because it can be very visual to indicate two axis of a person's life- where they are at now in terms of the bigger picture (life stages, age), and what is their current situation, whether they are doing well and reaching their fullest potential.

Brainstorming outcome

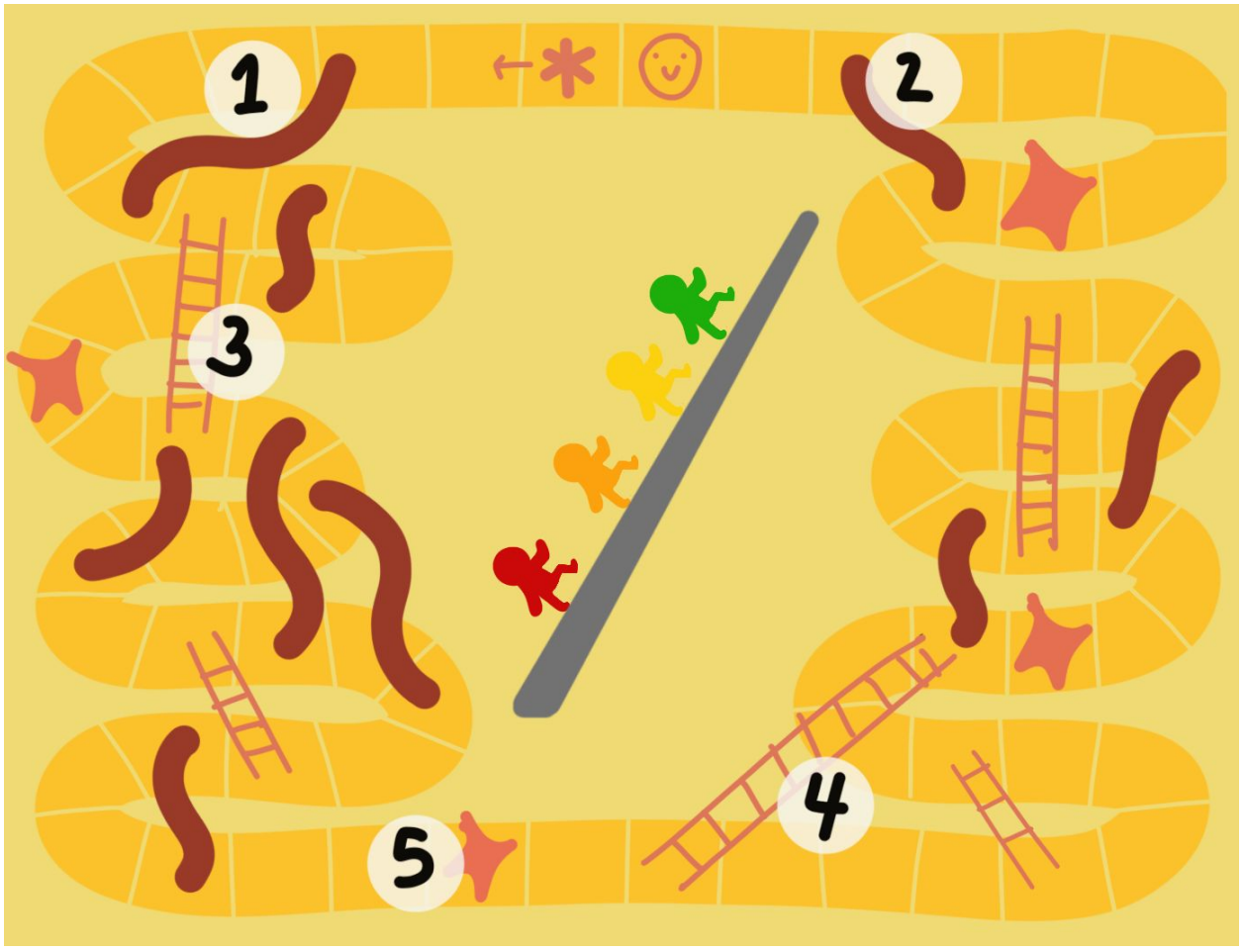
The two ideas I feel is able to bring out the essence of the transition between high school and college is the tree metaphor and the snake and ladders metaphor. I think they both have more depth to it- viewing the growth of a person in multiple dimensions.

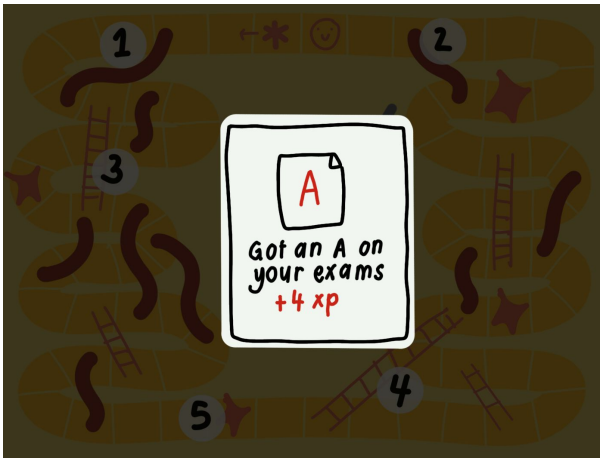
One thing I would like to improve for the snake and ladder concept is to include some type of choice and context. Also, I want the path from start to finish to be a loop rather than a linear process. This is because even after successfully transitioning from a high school student to a college student, it is not the very end. We will have to go through more transitions in our lives. This also ties into the concept of seasons where seasons come and go, and they come back again. Dry spells are not a one off situation and students might experience multiple dry spells in their college career.



By incorporating the tree idea and the snake and ladder idea, I was able to come up with this cohesive piece. The tree is mainly a mental map as to how the student has grown, which is different from how far the student has come, which is indicated by how far they are from the endpoint.

First Iteration + Crit





Every time a player reaches one of the snake or ladder boxes, they would pick a card from the “snake” or “ladder” pile. It would provide them with a better context as to why they are going up the ladder or down the snake. One thing I wanted to do through this is to allow students to see failures in a more positive light, where even though they might fall back, they still gain experience from the failure, indicated by an increase in experience points (xp). The star boxed are wild boxes where they can either move upwards or downwards in terms of board position and experience points. I wanted this to be a randomised choice because players would definitely choose the obvious choice that would benefit them, which does not reflect the choices that they would make in real life.

How can the mental map change in both positive and negative ways? 10 points for design with notes

I decided to use the space in the middle of my design as the mental map. Two way to show whether a change is positive or negative is by first using color and second using a progress chart to see how far the person is from reaching their goals.

I wanted to make my piece more specific to college life in CMU, which is why I decided to use walking to the sky as a mental map in addition to how far they are from the endpoint of the board game. The higher they are in terms of the “pole”, the more continuous progress they have made. This progress is not just on how far along they have come, but in terms of their own personal growth.

One thing I want to try to bring out is on how even when going through a bad time (going down the snake), students still learn something from it. On the board, they might have been more behind, but their walking to the sky might move forward. An example would realizing a major does not suit you and transferring out. This would be a setback but it is not necessarily all bad.

How is time established so that it helps students understand their situation? 10 points for design with notes

The aspect of time is established using the board. The closer they are to the finishing point, the closer they are to the end of the game.

One interesting thing about the board is that it is somewhat circular in a way that the ending point is also the starting point. The game would be able to run for as long as the user wants, but it also shows that even when school ends, we might have came really far but the process will continue at work.

Does the user have the textual as well as visual information needed to know what this offers? In other words,

By having cards in addition to the visuals of whether it is a snake or a ladder, I believe it would help make it more clear to the users what is happening- whether it is a good situation or a bad one and different ways people react to it.

This combines the textual information but I would say it sometimes complements and sometime contradicts each other. There might be cases when it is a snake, but the textuals will reveal something good that can come about from the setback.

How will they know what tasks are possible when they are in a situation of knowing what it means to be a successful student and not knowing what it means to be a successful student at the same time? 10 points for design with notes

For some of the squares, it is neither a snake or a ladder, by users have the opportunity to pick from a deck of chance cards with situations where they can react differently. I did not want students to be entirely able to choose how they face the situation because it is very likely that they will just choose the “right” way rather than what they would actually do in real life, which is why I want to leave it up to choice or chance to determine their projection.

How will you encourage pre-attention as well as attention to task? 10 points for design with notes

I think pre-attention would mostly be the simple visuals of the entire board, with a nice emphasis on the mental model of walking to the sky. I think this would really draw the attention to the user with the complicated shape in the middle of the page.

In terms of attention to the task, I am planning to have more movements, feedback and animations to entice and grab onto the attention of the users. This can be in the form of animating the cards and providing visual and sound effects to make the game more child-like an lively.

Iteration Notes

Mental Map: Walking to the Sky

- Even though it was interesting adding the walking to the sky as the mental map, I feel that it makes the growing process of students seem linear- having a finite end point. Having a finite endpoint is not necessarily bad because it can motivate users to try to reach that endpoint. However, I feel like the growing process of students or anyone is a continuous process. I was thinking of having a certain levelling system to incorporate the idea of walking to the sky.
- From the sketches, there would be 4 levels of different colors, where you start with red and try to reach for the green “person”. When a red person reaches the top of the structure, it will restart from the bottom and continue moving upwards. Though this makes it more interesting and there is more to improve on, lengthening the growth process, it is still very linear, with a finite end point.
- This is why I hope to revert back to the tree idea, where the young tree symbolises the stage of life that the user is at currently (college years) An expansion point would be a similar board but different cards to symbolise the difference in the experiences and challenges one would face. The mental map of the tree will also be different based on what stage a person is in their life. (Young seedling for elementary school students, mature tree for young adults, a big oak tree for working adults)

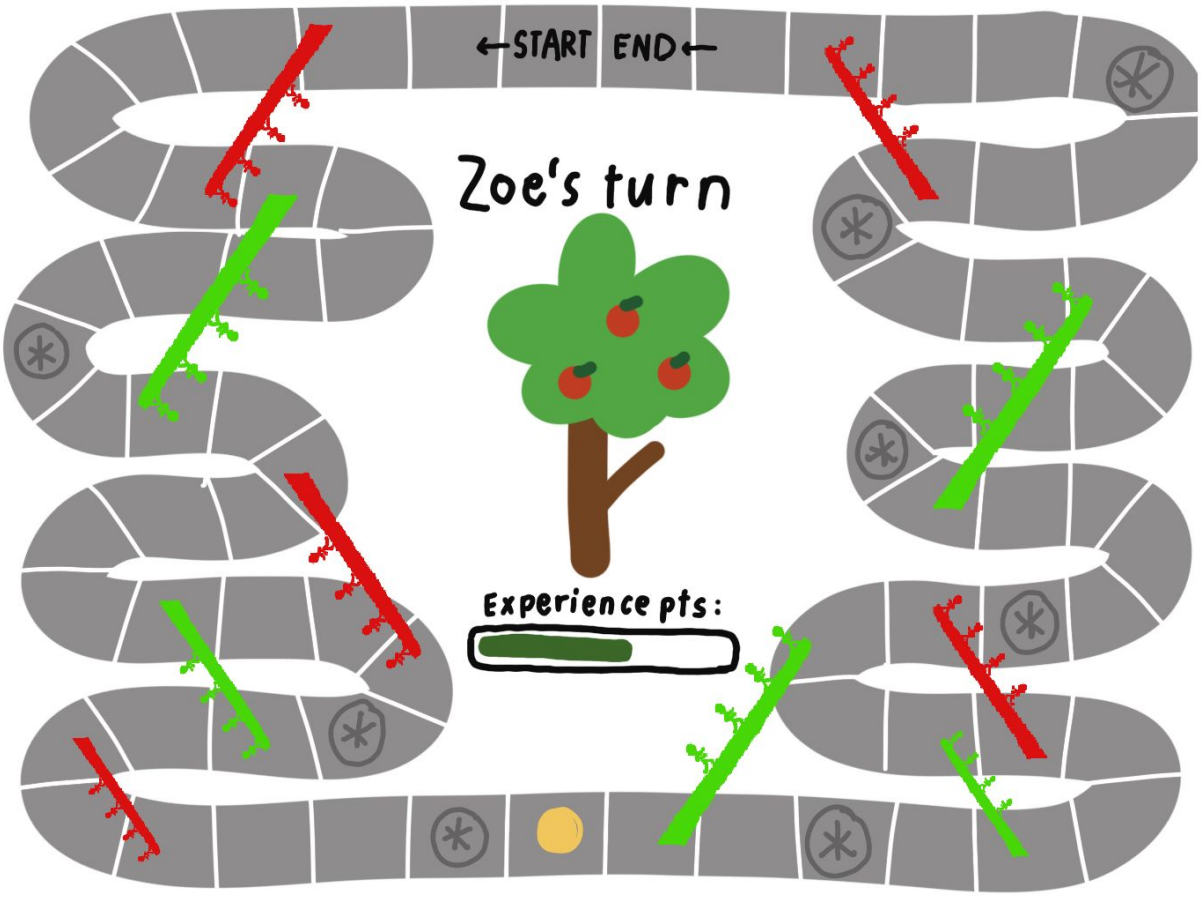
Experience Points (XP)

- Another thing I would like to work on is going to be having the experience points be more visually available for the users.

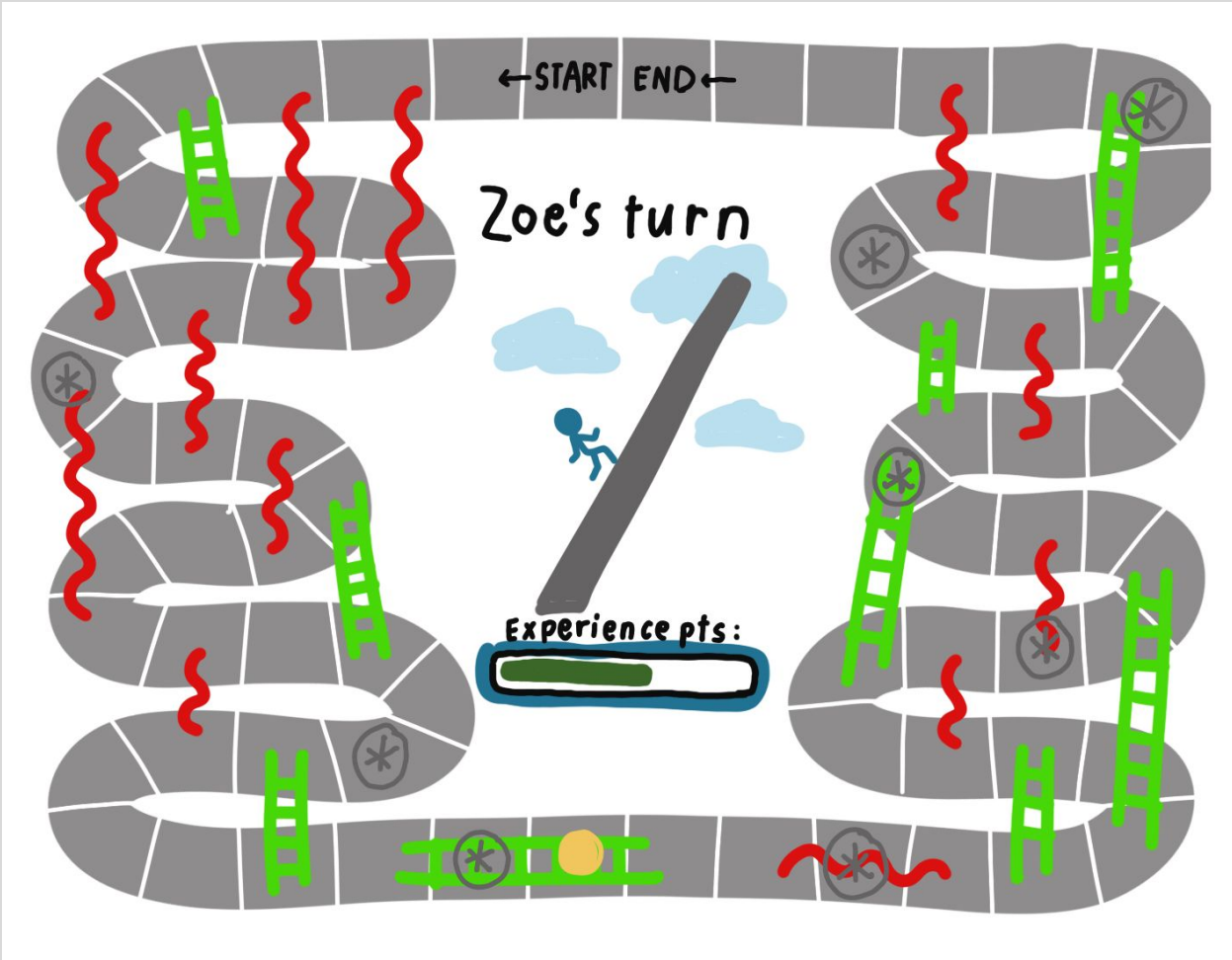
Visual Clarity of gameplay

- One confusion a lot of people have when they look at the design is how it is going to be played - whether it is physical or virtual. It is going to be virtual to really capture the changing mental map. I want to be able to make it clear how the game is being played by having some kind of storyboard.

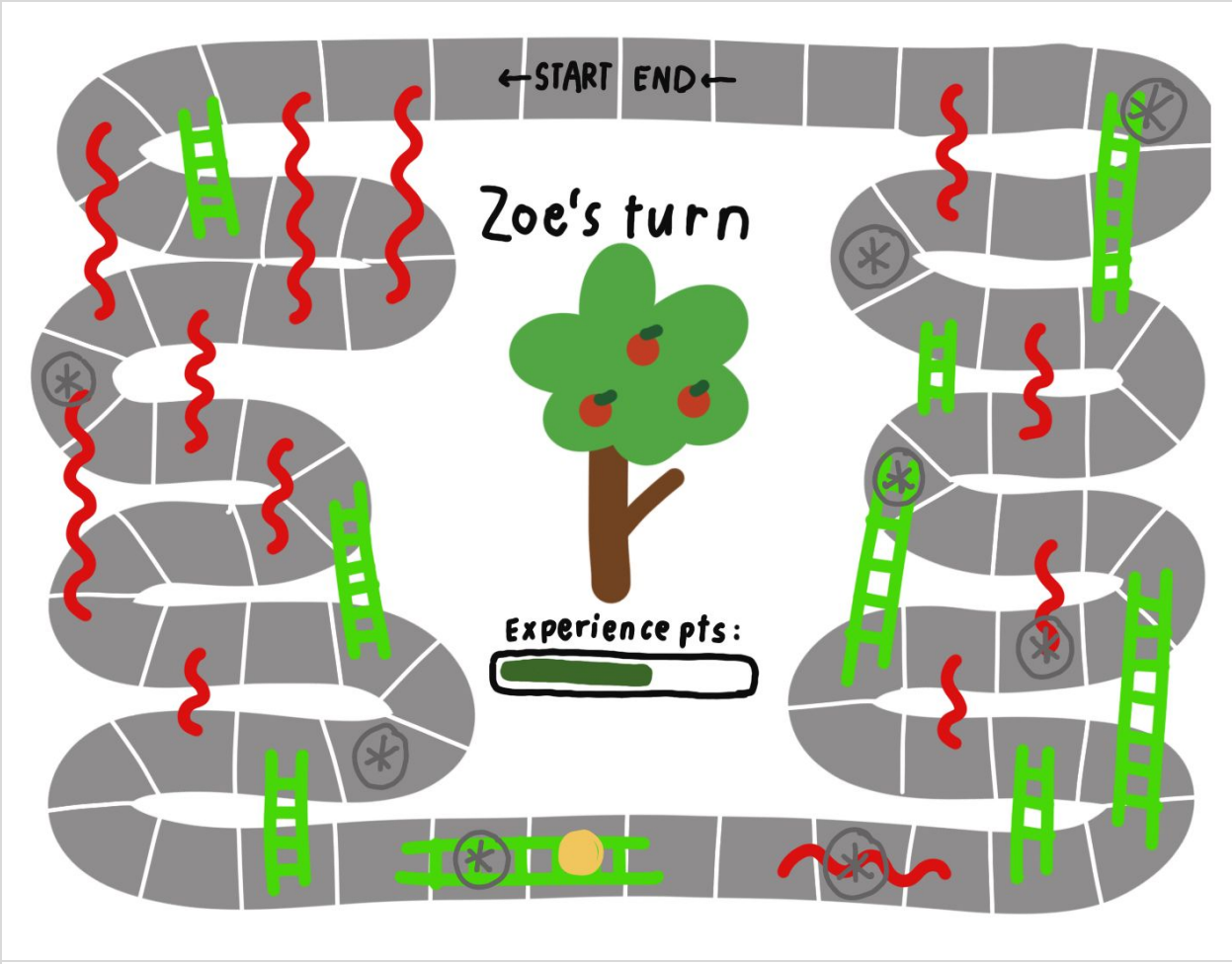
Continuous Iterations



Instead of using walking to the sky as the mental model, I changed it to a tree to represent the different seasons. In order to keep the relevance to CMU, I decided that I can use walking to the sky as the snakes and ladder. I used colors to differentiate between the snake versus the ladder. One limiting factor for this approach is how walking to the sky is of a certain angle and this restricts the placement and length of the snakes and ladders. This would then interfere with wanting a larger amount of long “snakes” at the beginning of the journey (since freshmen are more likely to fall back on their bad habits)

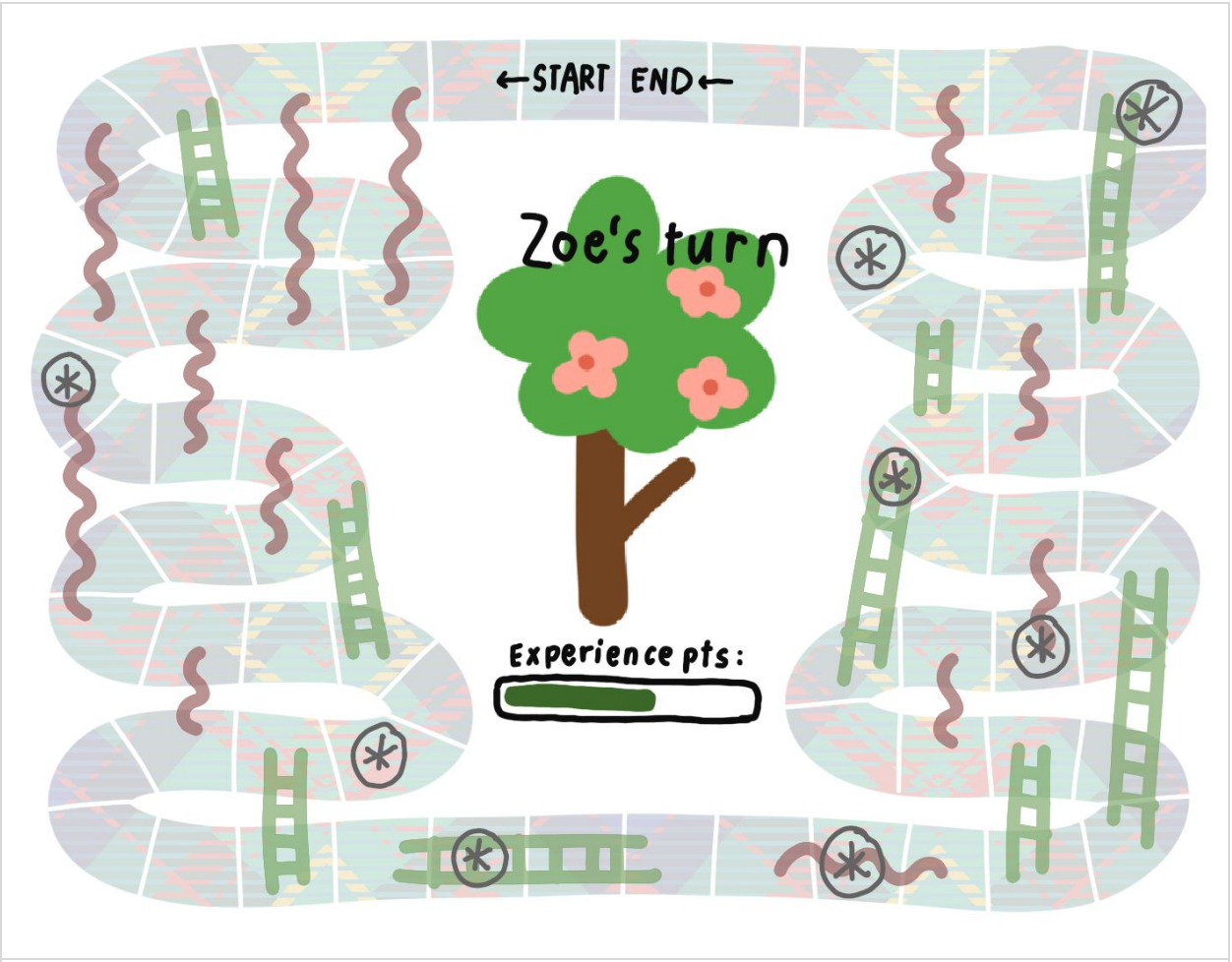


For this piece, I tried to address the problem of the board being too messy and hard to read. In order to bring more unity to the piece, I decided to make all the snakes and ladders vertical. This would bring about some kind of organization which complements the very windy board.



I realise that walking to the sky is not the best mental model to have for my design, which is why I incorporated the past two iteration to create this piece.

Final Design



One thing I wanted to work on from the last iteration was to increase the pop out of the mental model and have the board fade a little. By reducing the opacity of the board and reducing the saturation and opacity of the snakes and ladder, I was able to achieve that.

One other fix I did is to have some type of CMU elements, but not restrict the user base (I did not want to discriminate against non CMU students). I did this by having the board represent the CMU plaid.

Pop out

The main pop out would be the mental model at the center of the canvas. This is because it is the largest element on the design. Also, there is a sense of isolation and it

is a recognisable shape. The general color of the entire piece is grey, which makes the colored mental models pop out more.

Pattern

The entire board consist of consistent grids. This continuation and similarity across the entire canvas makes it uniform and creates a pattern throughout the piece.

Color

Since the orientation of the board changes depending on whether the user is on the first half of the board or the second half of the board, I wanted to use color to better represent whether a change is positive or negative. Positive changes are indicated by green icons and negative changes are indicated by red icons.

Metaphor of time (line, cycle, container, significance...)

Time was represented in a line and as a cycle in my piece. Physical time is represented by the game board, which can be linear when it is “unrolled”. Even though it might seem cyclical since the end is connected to the start, it is more of a metaphorical cyclical. When a user finishes the game, they are done with the life stage and are moving on to the next life stage, which might seem like they are starting again.

When playing the game , users are mainly moving forward or backwards in time. They are able to move forward when they encounter a “green” change and move backwards when they encounter a “red” change. In order to create some type of cyclical changes where users might fall into a trap where they are moving forwards and immediately backwards, I incorporated some of the red and green changes that would lead to a wild card change (indicated by the * boxes) This would result in two changes to the user’s movement.

Changing mental map (that reflects positive, negative, and neutral change)

The user’s mental model is indicated by the piece at the center of the design. The mental model consist of a visual representation (season of the tree or the location of the icon on walking to the sky) and a progress bar representation.

To reflect positive changes, the tree would flourish more and bear flower or fruit; the icon would be higher on the structure; the progress bar would be more “filled”. To reflect negative changes, the plant would start losing its leaves and start wilting; the icon would be lower on the structure; the progress bar would be less filled. Neutral changes would not change the mental map.

Positive Card	Outcome	**Negative Card**	Outcome
Scored an A	Feel confident about the class +5xp	Failed an Exam	Talked to professor to figure out what went wrong +5xp
Went to Office Hours	Managed to clarify all your doubts +5xp	Fell Sick	Managed to get rest and asked a friend to catch up on school +5xp
Met with academic adviser	Have a better sense of how to manage your time better +5xp	Wasted an entire weekend playing video games	Had a lot to catch up on -5xp
Planned your course schedule before the registration day	Managed to register for most of your classes +5xp	Did not get into any of your classes because you didn’t plan ahead	Had to email multiple professors to try to get into classes -5xp
Asked peers for help	Have a better understanding of the topic you are struggling in +5xp	Slept in class because you did not get enough sleep the previous day	Had to read up on the class you missed -5xp

Wild Cards

Situation	Positive Choice	Negative Choice
Long weekend	Spent catching up on work +5xp	Wasted on video games -5xp
Failed an exam	Talked to professor to see what is wrong +5xp	Give up on the class and stopped studying -5xp
Fell sick	Asked for an extension to better complete your project +5xp	Rushed the project and did not complete it -5xp

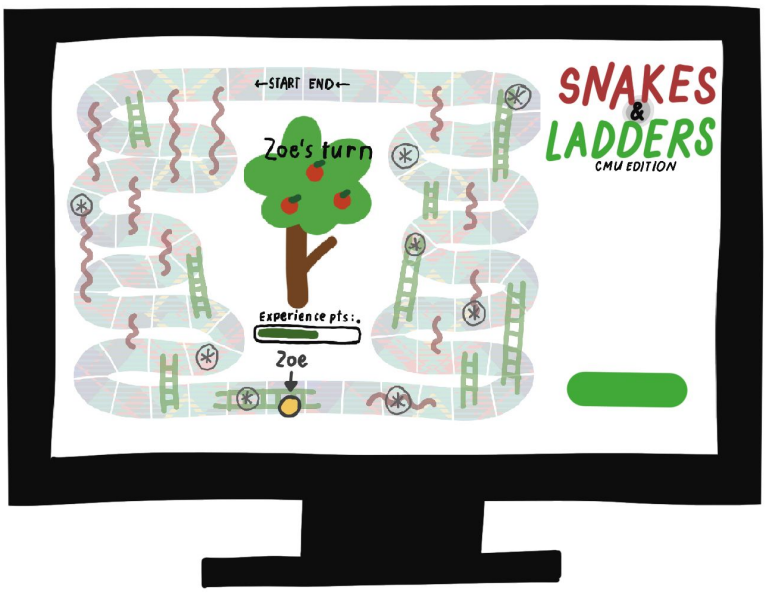
Assigned to a bad group	Talked to the professor about the unequal participation but still gave in your best +5xp	Gave up on the class and refuse to put in any effort if groupmates did not put in effort -5xp

Layout and Gameplay

The following shows how the game play would be and the general structure for the interface.

Buttons would include: Start New Game, Instructions and Quit

Button would switch based on the state of the game.
Example of prompts would be: Roll Dice, Pick Card, Next Player



End game screen layout

Timesheet

Day	*Task*	*Time Spent*
October 31	Reading	1 hour
November 2	Brainstorming	2 hours
November 4	Writeup	1 hour
November 5	Refinement	0.5 hour
November 10	Iterations	2 hour
November 11	Writeup	1 hour
November 14	Iterations	1 hour
November 18	Final Design	2 hours
November 20	Report	1.5 hour