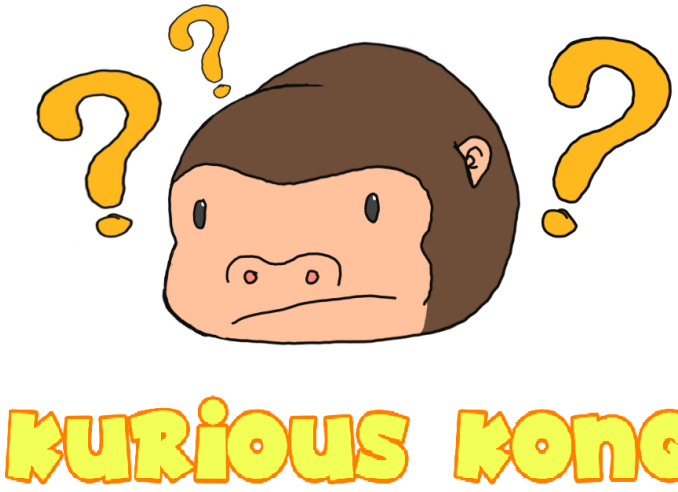
ASSIGNMENT 2

COSC2625 BUILDING IT SYSTEMS 2018
'KING KONG AND FRIENDS 2.0'



Kyongsub Kong | s3634359
Ming Jie Guan | s3723009
Ty Ty Chau | s3668469
Matthew McCarthy | s3718180
Huanghao Li | s3669467

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MEET OUR TEAM

"King Kong and Friends is made up of RMIT students with diverse culture, characters and personalities, which can maximise our outputs with creativity and various perspectives. We have teamed up together to translate dreams into reality."

Kyongsub Kong
Leader
/ Programmer
s3634359

Ming Jie Guan
UI Designer
s3723009

Ty Ty Chau
Programmer
/ Graphic Designer
s3668469

Matthew McCarthy
Graphic Designer / Sound Producer
s3718180

Huanghao Li
Programmer
s3669467

PROJECT DESCRIPTION

1. **Project Name**

   Kurious Kong

2. **Contain enough details so that anyone with reasonable technical capability can unambiguously visualise the proposed product.**

   Our project goal is to develop an education app for young children. The product's goal is to make the learning process more interesting for them. We intend on developing a game that contains a few mini-games, each has its own topic and it uses education as a means of progression. Once the player has cultivated enough points through completing challenges and quizzes within the mini-games, they can spend those points for cosmetics items. As stated, the main goal is to help kids to understand the topics better and that they could apply the knowledge in their class and hope to become the best within their class, maybe even school.

3. **Identify the type of project/stream this is: for example, a 2D Platformer, a Visual Novel or something else.**

   The game type is 2D platformer

4. **Contain a detailed description of the functionality of the product (that is, what the product will do), and enough information to give the assessor a "good feel" of the expected product experience.**

   We aim to successfully develop a product that bring children knowledge as well as entertainment. The application will have three and maybe four categories (yet to be completely decided) upon launching the app. Each category is labelled with the topic of its own, there are two maths related and one to two literacy related. For maths, it will have "Addition" and "Multiplication" and for literacy, "Spelling" and perhaps Picture to Speech (yet to plan this one out).

   The game itself will have difficulties, these can be unlocked once the player reaches a certain level. Levels can be increase by completing questions. For an example, if you complete 10 questions without any mistakes, you gain some experience, and once you have earned the required experience to level up then you'll be able to do harder questions.

If everything goes well, the team is planning to extend the functionality of the app. What we meant by extending is that to add more function to it, the ones we have come up so far are login system, whereas the user can register and login, they can save their progress this way and no need to start all over again on a new device. Some type of in game currency that the player obtained upon completing weekly challenges and if we have online mode, where players can challenge each other, the winner will gain some of the currency as well. The currency then can be used to purchase cosmetic items. To ensure we have enough funding to keep the game going, there will be some kind of premium currency, those can be obtained through microtransaction, it can then be used to buy exclusive cosmetics items. Another is that maybe some kind of energy bar system, to prevent kids gets too addicted to the game, not that they would but as a safety measure, for an example there will be 5 energies, each time the player starts a challenge and fail, then it'll consumes an energy, if the player successfully complete the challenges then the energy won't be consumed.

CORE FEATURES

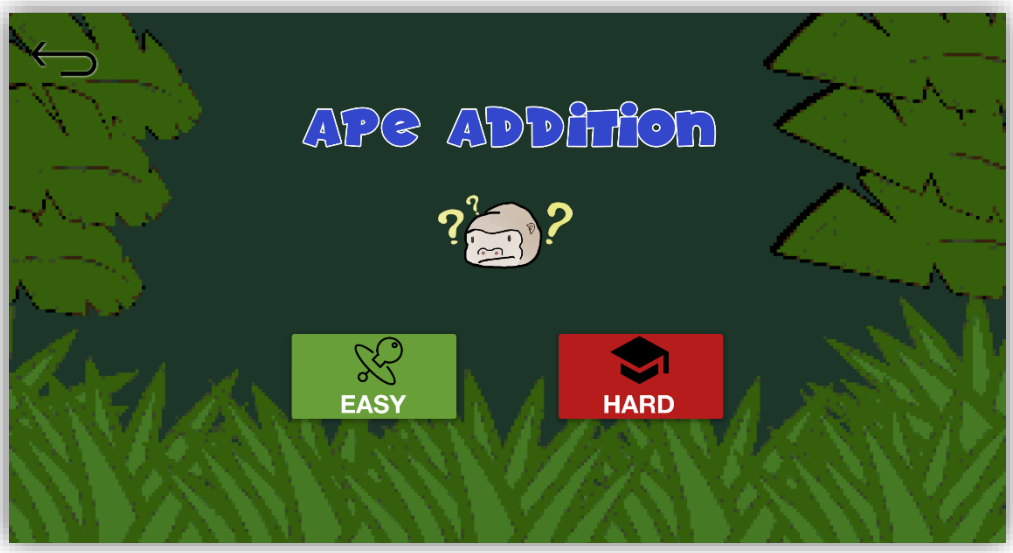
1. **Pointing System**

Implementation of a point system where users are awarded points for correctly answering a question. Users' can use this feature to compete with others adding a competitive feature to the game.

Validation Test

The game shows visual feedback of the points being earned by correctly which all adds up every time a question is answered correctly and the total points will be shown when its game over.

2. Difficulty Option



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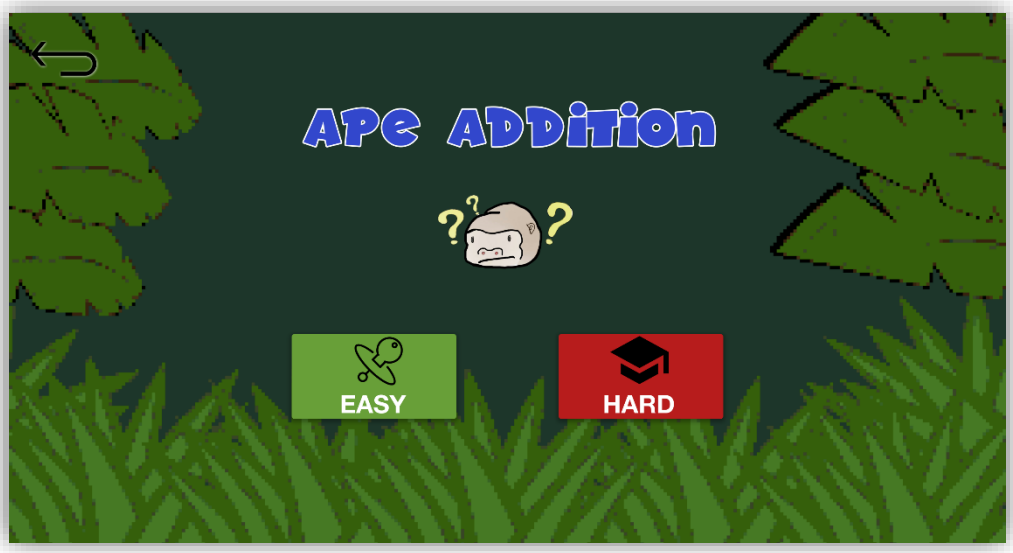
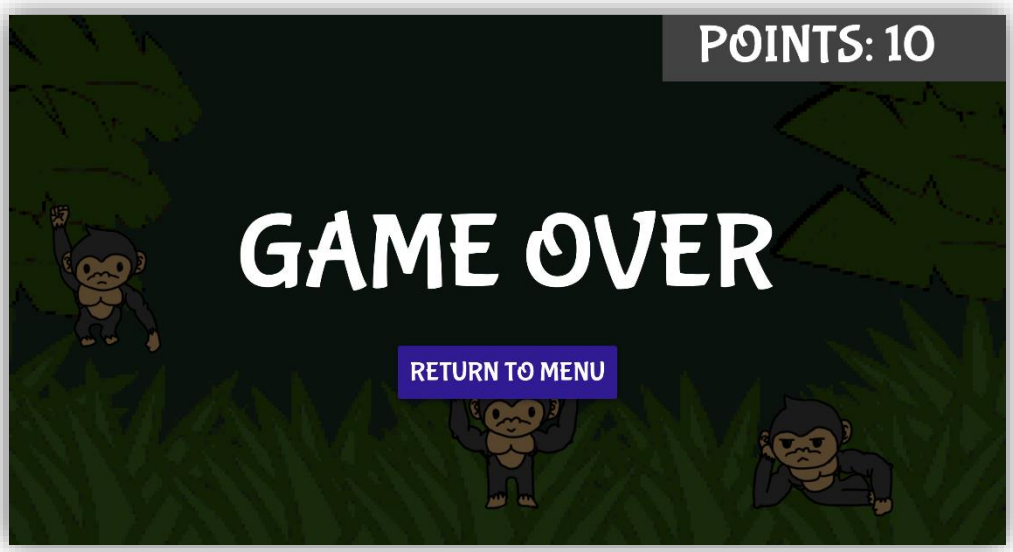
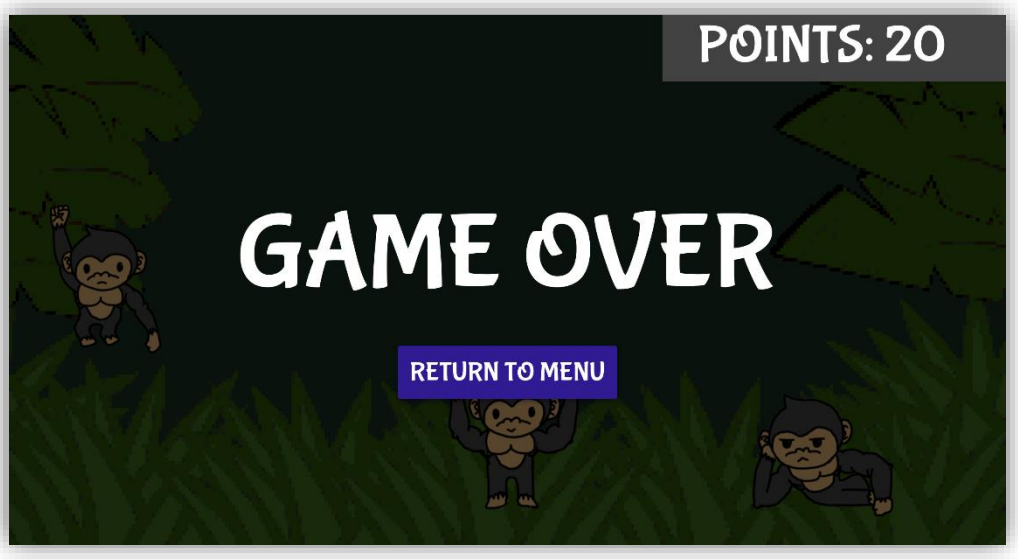
3. Addition Game




POINTS: 10
GAME OVER
RETURN TO MENU


POINTS: 0
50
QUESTION: 33+27
65
60


POINTS: 20
50
QUESTION: 33+27
65
60



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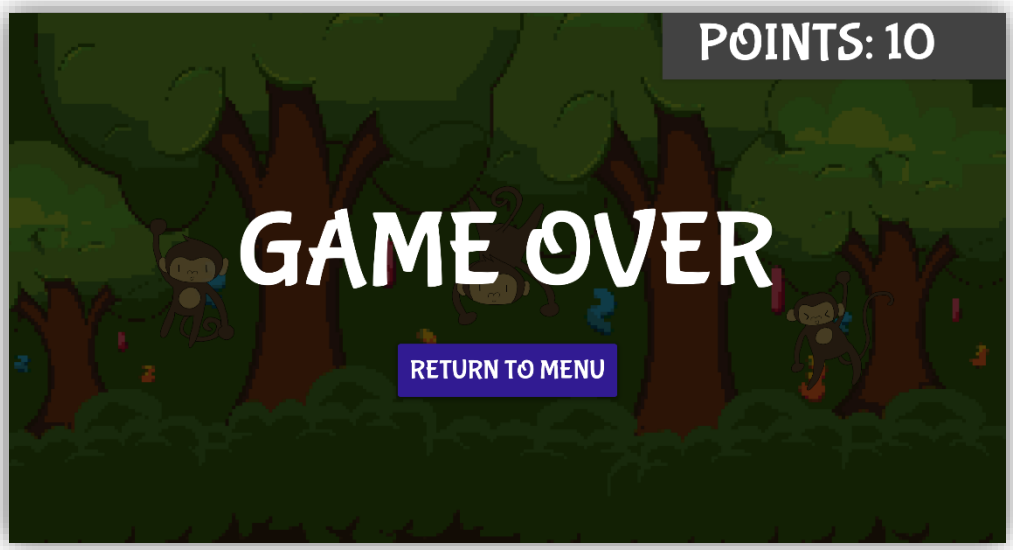
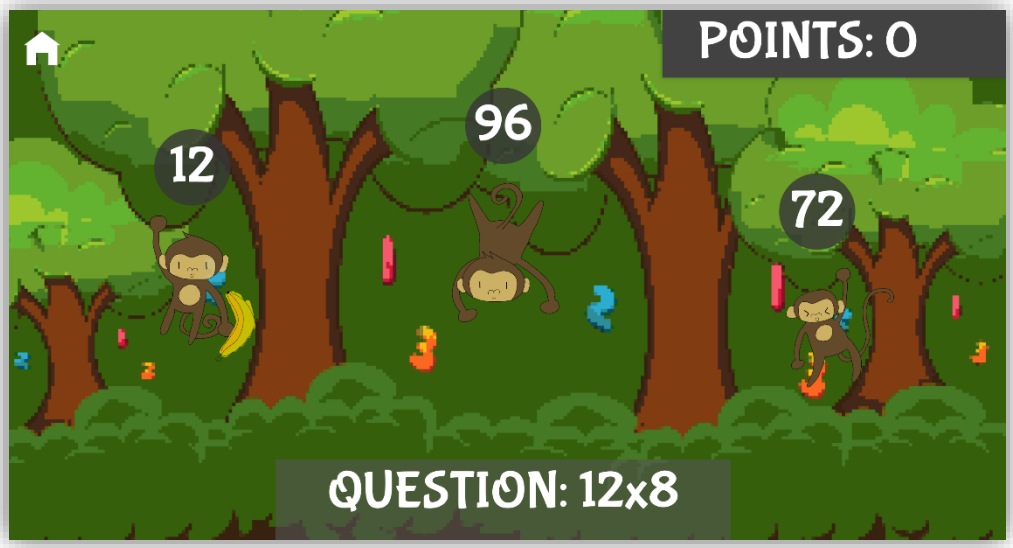
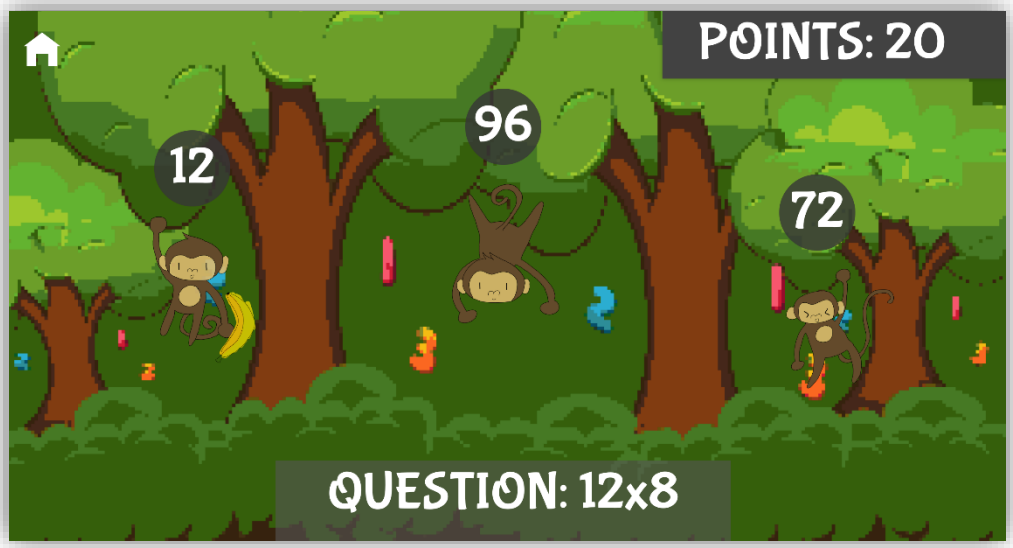
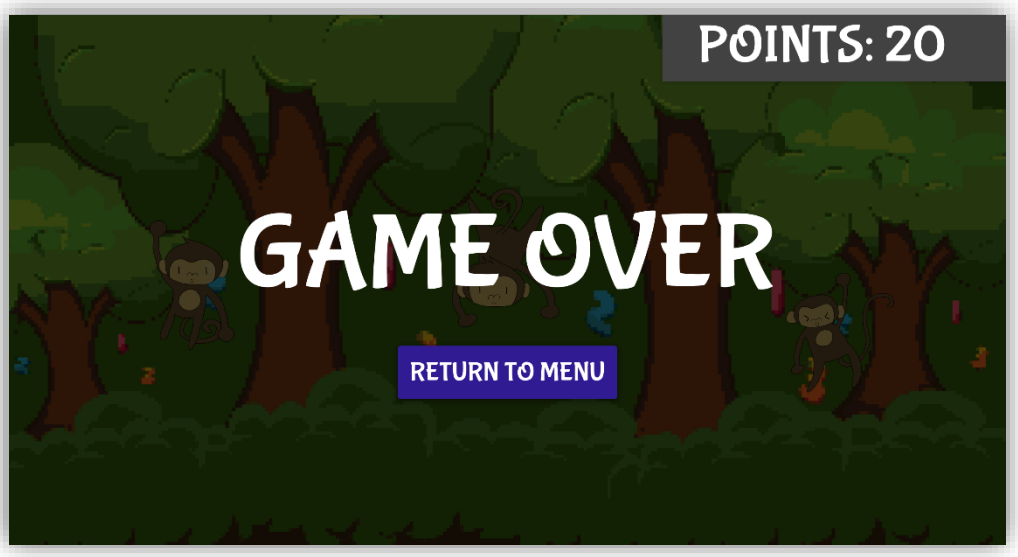
4. **Multiplication Game**


POINTS: 10
GAME OVER
RETURN TO MENU


POINTS: 0
12
96
72
QUESTION: 12x8


POINTS: 20
12
96
72
QUESTION: 12x8



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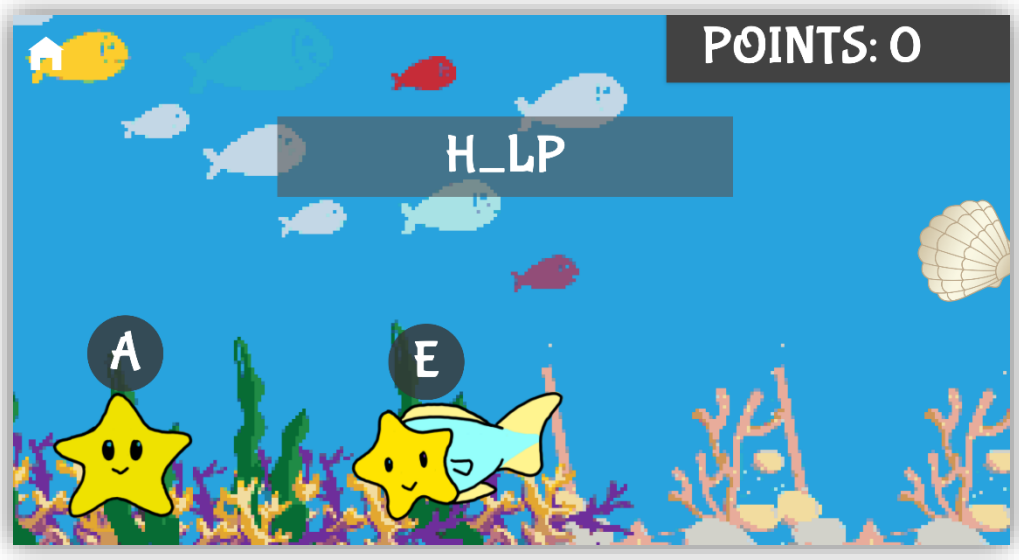
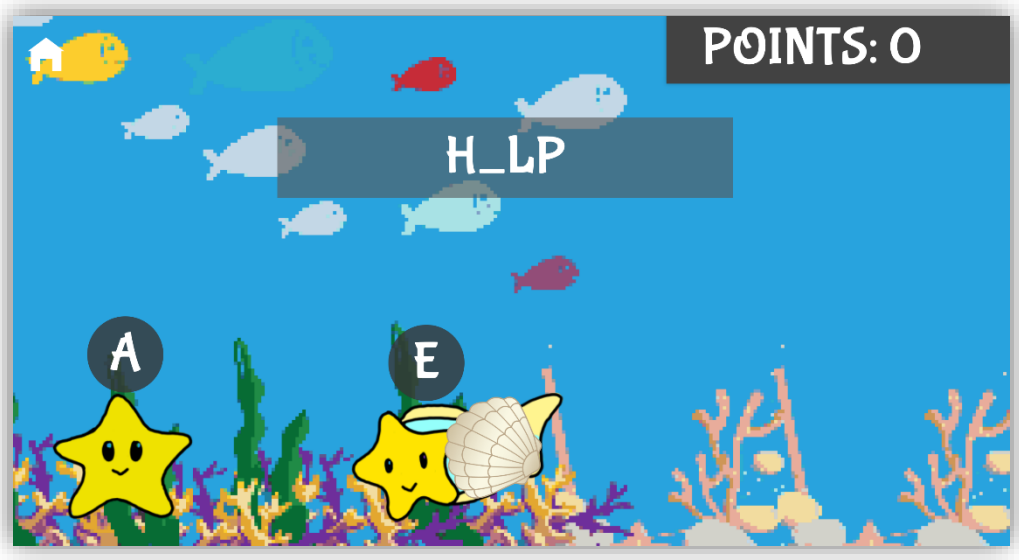
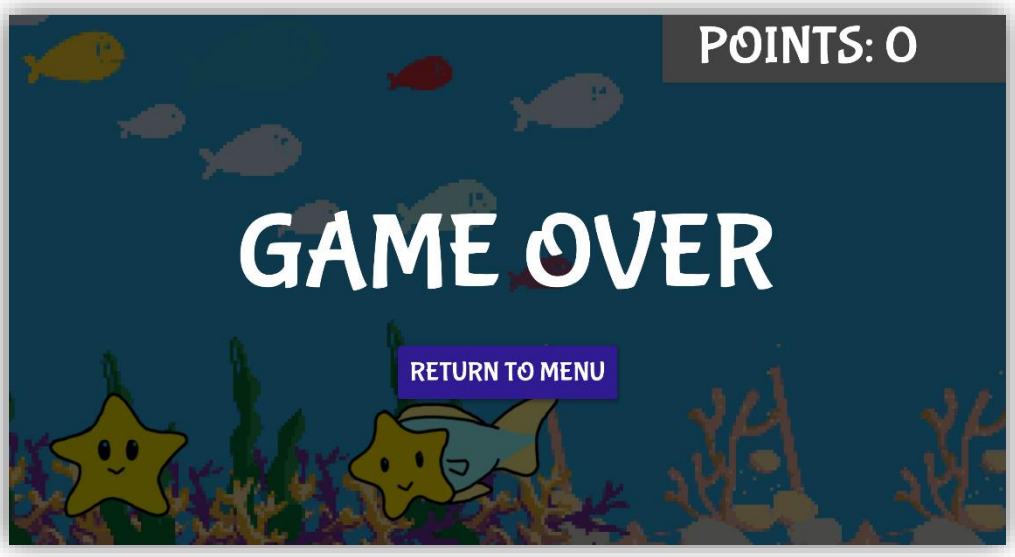
5. **Spelling Game**

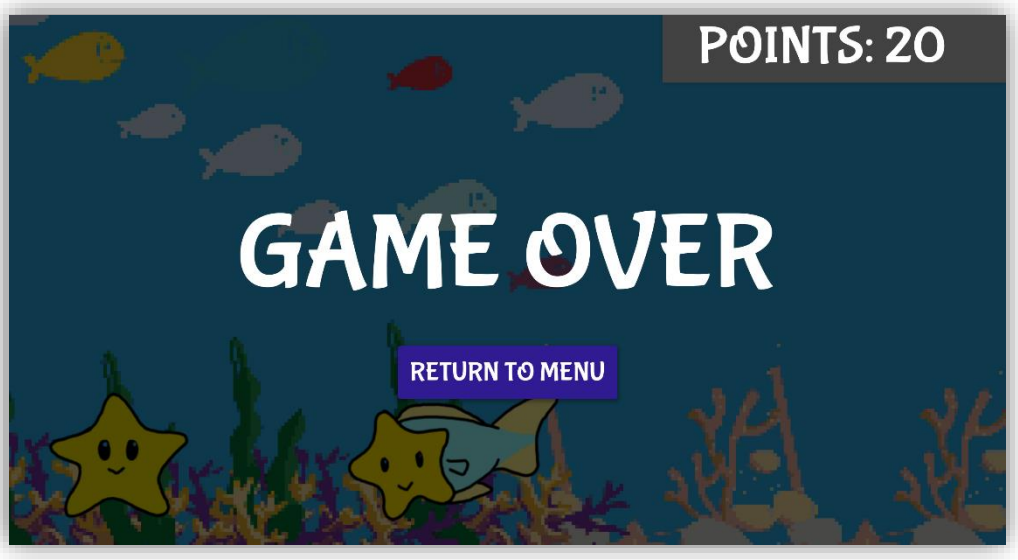





POINTS: 0
GAME OVER
RETURN TO MENU


POINTS: 0
AVO_ADO
C
K


POINTS: 20
AVO_ADO
C
K



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TIME ESTIMATION

Kurious Kong								
		Renee	Kyong	Ming	Ty	Matthew	Huanghao	Av.
MVF 1	Pointing System		20					20
MVF 2	Difficulty Option		15					15
MVF 3	Addition Game		55					55
MVF 4	Multiplication Game		30					30
MVF 5	Spelling Game		40					40
EVF 1	Avatar		25					25
EVF 2	Account Creation		25					25
EVF 3	Login Function		20					20
							Total :	230

JUSTIFICATION

- **MVF 1 – POINTING SYSTEM**

STEPS	Designing + Coding + Testing
	Designing in-app pictures seems quite simple compared to other designing work. Also, royalty free font will be used for numbers and texts. So, design process may take 5 hours in total. However, coding is expected to take longer time, because none of us is familiar with C# language which has to be used to create our project game in Unity. Validating test has to be done to test whether it functions properly or not and errors from this test should be corrected.
TIME	5(Designing) + 10(Coding) + 5(Testing)= 20

- **MVF 2 – DIFFICULTY OPTION**

STEPS	Designing + Coding + Testing
	Design for this feature is simply to make two boxes with options. Coding will be implemented once two different game modes for each game are created. This feature asks users to choose one option out of two modes. Coding and Validation test will take less than 10 hours.
TIME	5(Designing) + 5(Coding) + 5(Testing)= 15

- **MVF 3 – ADDITION GAME**

STEPS	Researching + Learning + Designing + Coding + Testing
	Research for each game needs at least 5 hours in order to draw the overall picture of the feature. Learning Unity takes at least 5 hours to understand its basic function and how it works and another 5 hours are necessary to know how C# language works. Designing background, characters, animations and sound will take at least 20 hours. Coding is expected to take 15 hours, including 3 random numbers generation, a random equation generation and a basic correction with effect sound and a graphic.

	Validation Test : 5 hours
TIME	5(Researching) + 10(Learning) + 20(Designing) + 15(Coding) + 5(Testing)= 55

- **MVF 4 – MULTIPLICATION GAME**

STEPS	Designing + Coding + Testing
	This game basic function will be similar to the first game, so we can save time for researching and learning. However, designing might take the same time as it, since the multiplication game will has totally different background, characters and animations. Code will be similar to the first game, which saves us time on coding. Validation Test : 5 hours
TIME	20(Designing) + 5(Coding) + 5(Testing)= 30

- **MVF 5 – SPELLING GAME**

STEPS	Researching + Designing + Coding + Testing
	We need to research suitable words which will be used in the game to the age of the users. This game basic function will be different to the other two games, because this needs to generate some random words with a blank and example letters that users can select. designing will take the same time as the others. Since code will be different to the others, which enables us to spend at least 15 hours on coding. Validation Test : 5 hours
TIME	3(Researching) + 20(Designing) + 15(Coding) + 5(Testing)= 43

- **EVF 1 – AVATAR**

STEPS	Designing + Coding + Testing
	Time estimation for designing avatars varies considerably in quality and quantity. However, we have to limit the time for designing avatars, because our project game is for education with 2D pixelated images. Validation Test : 5 hours
TIME	15(Designing) + 5(Coding) + 5(Testing)= 43

- **EVF 2 – ACCOUNT CREATION**

STEPS	Designing + Coding + Testing
	The steps for EVF 2 are Designing + Coding + Testing. We need to design the main menu for the game to create this feature. Coding for this feature requires some SQL codes, php and a web hosting server to store users' accounts and passwords. Since these are our first attempts, we cannot estimate the exact time for this. However, we believe all the coding process will take roughly 20 hours and we need another 5 hours for validating.
TIME	5(Designing) + 20(Coding) + 5(Testing)= 30

- **EVF 3 – LOGIN FUNCTION**

STEPS	Designing + Coding + Testing
	This feature also needs some SQL codes, php and a web hosting server to retrieve users' accounts and passwords. Coding should be implemented with account creation. Validation Test : 5 hours
TIME	5(Designing) + 10(Coding) + 5(Testing)= 20

TECHNOLOGIES

a) **Collaborative workspaces**

b) **Software**

c) **Tools**

d) **Resources**

APPENDIX

EXTENDED FEATURES

1. **Avatar**

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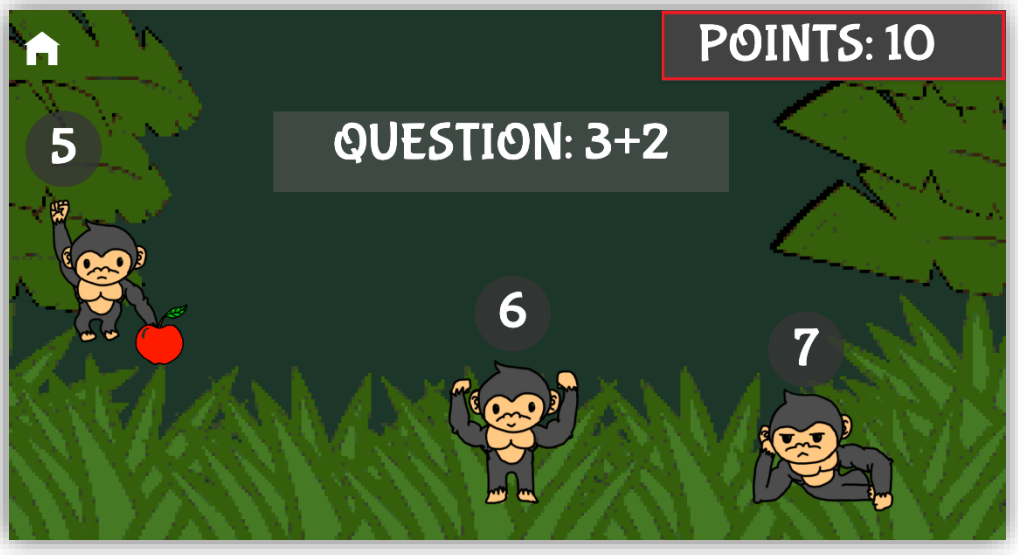
2. Account Creation



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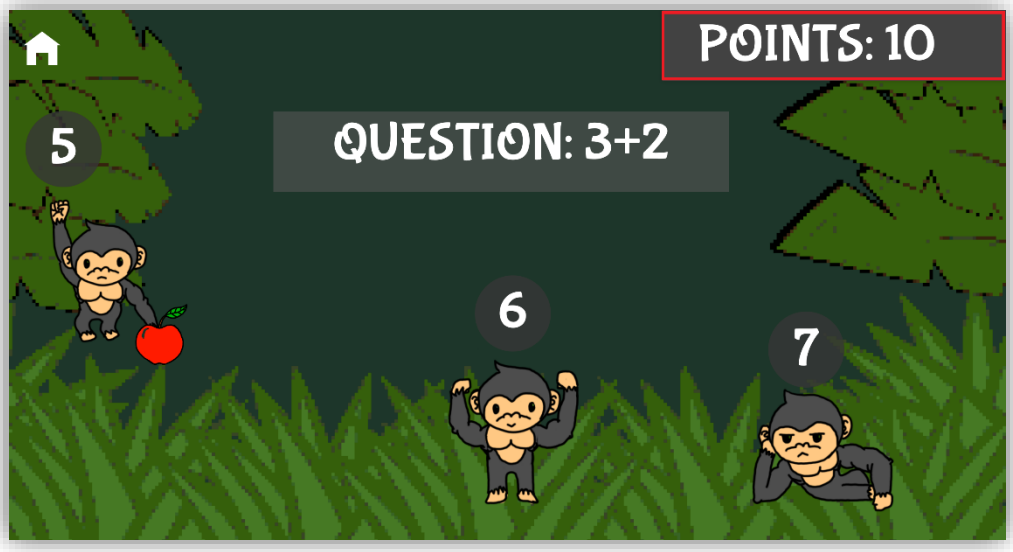
3. Login Function



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