UNIVERSITY OF MALAYA

WIX1002 FUNDAMENTALS OF PROGRAMMING

MANAGERIAL REPORT

ATTACK ON TITAN

LECTURER NAME   : DR. ANG TAN FONG

COURSE OCCURRENCE : OCCURRENCE 1

GROUP NO.   : GROUP 6

STUDENT NAME	MATRIC NO.
LIM BOON GUAN	**U2005273**
FRANKIE LIM QI QUAN	**U2005263**
GOH CHEE LAM	**U2005382**
TAN THAI MING	**U2005417**
DARREN SOW ZHU JIAN	**U2005252**
TAN WEI JIE	**U2005400**

Roles and Assigned Work

	Frankie Lim Qi Quan	Goh Chee Lam	Tan Wei Jie	Lim Boon Guan	Darren Sow Zhu Jian	Tan Thai Ming
Basic Requirements						
Walls	■	■	■			
Coin	■	■	■			
Weapon	■	■	■			
Ground				■		
Titans				■		
Compile	■	■	■	■	■	■
Extra Features						
BGM	■	■				
Leaderboard	■	■				
Shield				■		
SFX					■	
Nuke					■	
Endless Mode						■

Project Timeline

Week	4	5	6	7	8	9	10	11	12	13
Group formation	■									
Preliminary research		■								
Discussion and task distribution			■							
Detailed research			■							
Programming				■	■	■				
Code compilation and execution							■			
Bug fixes and testing								■		
Project finalisation									■	■
Report writing									■	■

Meeting Report

i) 11 NOVEMBER 2020
We conducted the first official meeting in Google Meet to get to know each other and to plan out our project schedule and outline.

ii) 12 NOVEMBER 2020 - 11 JANUARY 2021
We had unofficial discussions in the Whatsapp group chat room to pertaining to the details and problems faced while doing the project. We have also consistently updated our progress in the Whatsapp group to make sure we can submit the projects on time.

iii) 3 JANUARY 2021
We conducted our second official meeting at Google Meet with the consultant for 'Attack On Titan', Chooi He Lin, to discuss about the details, progress and efficiency of our project. We have also asked for advice from Mr Chooi to better improve our project and suggestions for additional features.

Problems faced

1. Poor Team Communication

Since all team members are living in different places and as we are amid a Covid-19 pandemic, we are forced to conduct non-face-to-face meetings online. Online meetings are restricted by internet connection and access to electronic devices. Besides that, we also faced difficulties in matching schedules to find a timeslot in which every team member is free to attend meetings.

2. Fail to enable the player's weapons to attack the shields and titans

During coding, we faced problems in writing the codes for the weapons to attack shields and titans. We found that the weapons attack the shields but after the shields are destroyed, the weapons do not attack the weapons. After that, we also found out that sometimes the weapons will attack the titans multiple times.

3. Problems in eliminating dead objects (shields, titans)

We faced problems in coding for eliminating the dead shields due to being attacked by the weapons.

4. Difficulties in collaborating and combining the works.

As the tasks are distributed to every team member, we faced difficulties in combining the works and also compiling the codes.

5. Problems in enabling the shields to protect the titans

The function of shields is to protect the titans from being attacked by the weapons. We faced problems in coding for enabling the shields to protect the titans.

6. Problems in implementing the SoundSFX

It shows errors when we run some of the sound effects such as in the trailer, counting coins SFX, Titan Scream SFX and so on.

7. Problems in moving the Armoured Titans to the nearest column with weapons

If both the left and right columns next to the Armoured Titans have weapons, the Armoured Titans failed to decide to move to which column.

Solutions

1. We have created a WhatsApp Group and a Microsoft Teams team for us to send messages and have occasional meetings either through video calling or Microsoft Teams meeting. Through these attempts, we managed to keep each other in touch about the game development progress.

2. We have implemented two if statements, one for checking the existence of shields and attack the shields if the shields exist while the other one for weapons to attack the titans. We also added a counter to prevent the titans from being attacked multiple times by the weapons.

3. We created a method which uses three for loops, each was used to check the hp of shields, colossus titans and armoured titans respectively. If the hp is less than or equal to 0, the dead objects will be removed from the ground.

4. We used GitHub to upload our codes and give access to the codes to other team members. This is to make the compiling process easier. Beside that, we used google docs to enable team members to edit and complete the managerial and technical report together.

5. We used a for loop to check if the shields exist on the column from 0 to 9. If the shields exist on the column, the shields will accept the attacks by the weapons and protect the titans on the same column.

6. We managed to backtrack and traced all the errors causing the program to have errors. After playing each SoundSFX, we close the .wav files played to prevent any resource leak.

7. We used the concept of ArrayList to get the shortest distance between Armoured Titan and column with weapons, then we move the Armoured Titan to the nearest column with weapons. If both the left and right columns next to the Armoured Titans have weapons, that means there are two values of shortest distance. In this case, we used the Collections.shuffle to randomly choose either one column for the Armoured Titans to move to.