



INDIVIDUAL ASSIGNMENT

TECHNOLOGY PARK MALAYSIA

CT005-4-0-IVIP

INTRODUCTION TO VISUAL AND INTERACTIVE PROGRAMMING

UCFF2005(1)CT

HAND OUT DATE : WEEK 2
HAND IN DATE : WEEK 12
WEIGHTAGE : 40%

MODULE CODE : CT005-4-0-IVIP
LECTURER : MS. AZIAH BINTI ABDOLLAH
STUDENT NAME : CHANG SHIAU HUEI
STUDENT ID : TP060322
INTAKE CODE : UCFF2005(1)CT

TABLE OF CONTENTS

1.0	INTRODUCTION	4
1.1	- ABOUT “ESCAPE ROOM”	4
1.2	- OBJECTIVES	5
1.3	- GOAL	5
2.0	STRATEGY PLANNING	6
2.1	- DECIDE TYPE OF APPLICATION TO WORK ON	7
2.2	- SEARCH FOR INSPIRATION ON THE INTERNET	7
2.3	- BRAINSTORM IDEAS	8
2.4	- DECIDE GAME CONCEPT	9
2.5	- SHORT LIST IDEAS AND FEATURES TO BE ADDED INTO THE GAME	9
2.6	- PLAN SCHEDULE	10
2.7	- SEARCH FOR PIXEL ART AND ART SOFTWARE ON THE INTERNET	10
2.8	- WRITE ALGORITHM	12
2.9	- CODE USING BYOB	12
2.10	- DO TEST RUNS AND RESOLVE BUGS	12
2.11	- FINALISE	12
3.0	PROGRAM DESIGN	13
3.1	- ABSTRACTING AND MODULARIZING	13
3.1.1	- SPRITES NEEDED	13
3.1.2	- SCRIPTS NEEDED	17
3.1.3	- BACKDROP USED	23
3.1.4	- SOUND USED	25
3.1.5	- INSTRUCTION	26
3.1.6	- PHASES OF THE PROJECT	26
3.1.7	- VARIABLES USED	27
3.2	- FLOW CHART	28

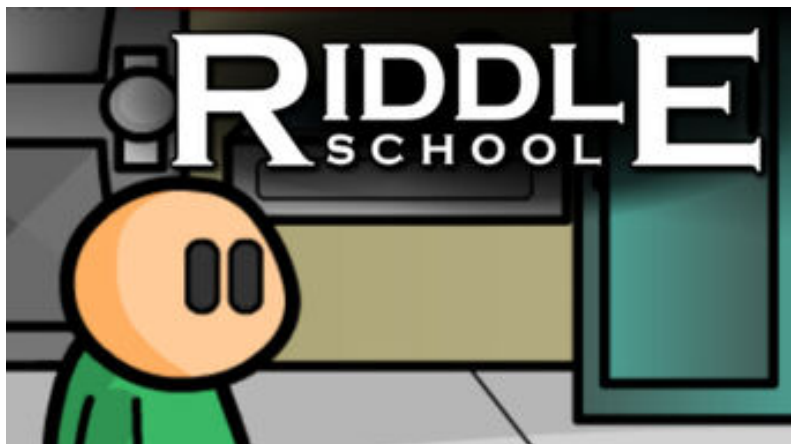
3.3 - PSEUDOCODE.....	29
4.0 TEST RESULTS.....	36
5.0 USER’S MANUAL BOOK.....	39
5.1 – INTRODUCTION	39
5.2 – GAMEPLAY (INTRO)	40
5.3 – GAMEPLAY	42
5.4 - ENDINGS.....	44
5.5 – EXTRA GUIDE.....	45
6.0 CONCLUSION.....	46
6.1 – APPLICATION CAPABILITIES	46
6.2 - LIMITATIONS	46
7.0 REFERENCES	47

1.0 INTRODUCTION

1.1 - ABOUT “ESCAPE ROOM”

After several days of observation and research about what type of project I should create, I have decided to go for escape themed games which requires the player to acquire clues, solve puzzles, and eventually finishing the game by leaving the room.

This game is inspired by “Riddle School”, an escape game I used to play and enjoyed a lot in my childhood. It consists many series and it was very popular back then when I was in primary school. However, the art style of the game did not really appeal to me. Thus, I’ve decided to create a simpler version of it with a more attracting art style.



I have played a lot of other escape games when I was young, but I had never tried nor seen any escape themed games that has a pixel art style. Hence, I wanted to combine pixel art and the escape theme together.

During the process of drafting my ideas of the gameplay, I wanted to make sure that my game is simple yet attractive and exciting. So, in the game, the player only has to use the mouse for most of the parts and the keyboard is only for typing in the clues they have found.

To make the game more exciting, I decided to increase the difficulties of finishing the game by adding a 5-minute timer during the gameplay. Players that are not able to finish the game within 5 minutes would cause them to lose in the game. Moreover, I had also added some distractions that does not help in any way for them to solve the clues. This is so to not make the gameplay too easy as the user might be able to win the game just by randomly clicking without any clue.

1.2 – OBJECTIVES

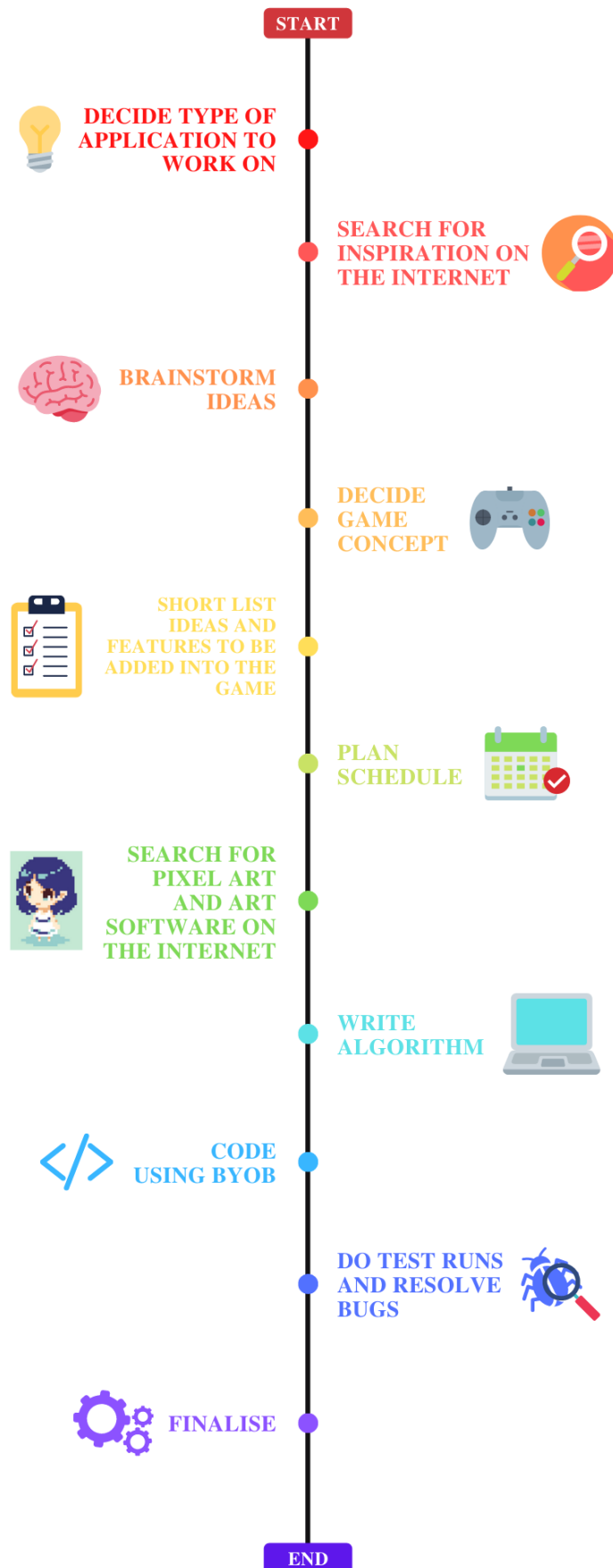
- To create a simpler version of “Riddle School” with a more attracting art style.
- To train the player’s strategic problem-solving skills, time management and keen observation skills.
- To provide as entertainment for the players.

1.3 – GOAL

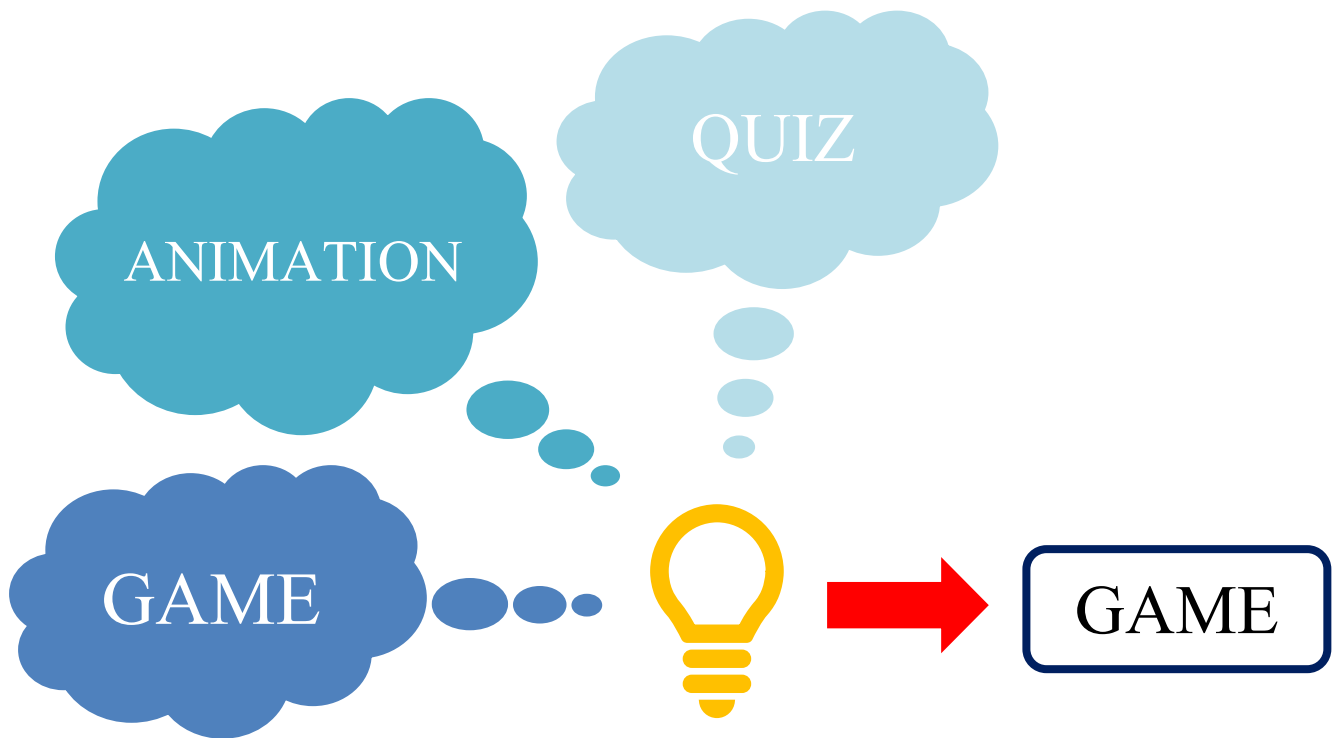
My goal is to make sure that the players are interested in the game and have fun along the process. I want to make the game interactive and fun because as someone who plays a lot of video games, interactive games are much more fun and entertaining. In the game, the user is playing as a character in the game (in the past), which needs to hurry to go to school for an exam, but her mom took the character’s house key instead for a business trip. So, the player as the character has to find the spare key that is in her mother’s office. Throughout the gameplay, I had added multiple user interactions as when the player clicks a certain sprite or object, a dialogue will pop out that will keep players anticipating more surprises ahead.

My next goal is to make sure that the player is able to solve the puzzle and experience the joy in finishing the game. I made sure that the game is not impossible to complete, and it is fairly easy for the players. This is so that the players could feel a sense of accomplishment by finishing the game and not discouraged easily. Moreover, my goal is also to make sure the players apply their cognitive thinking and problem-solving skills in the game. I adjusted the game to make sure the player is unable to win the game by just randomly clicking without a clue.

2.0 STRATEGY PLANNING



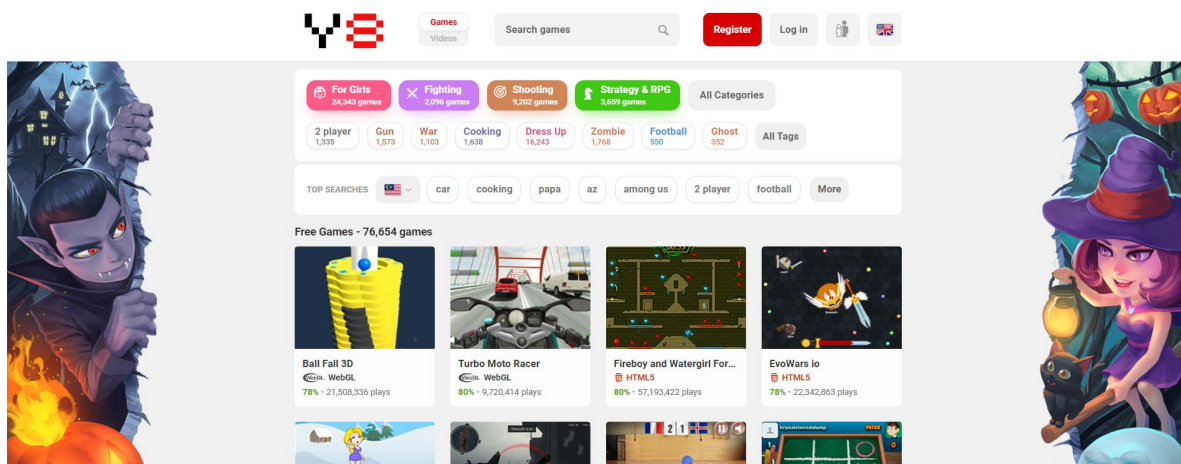
2.1 – DECIDE TYPE OF APPLICATION TO WORK ON



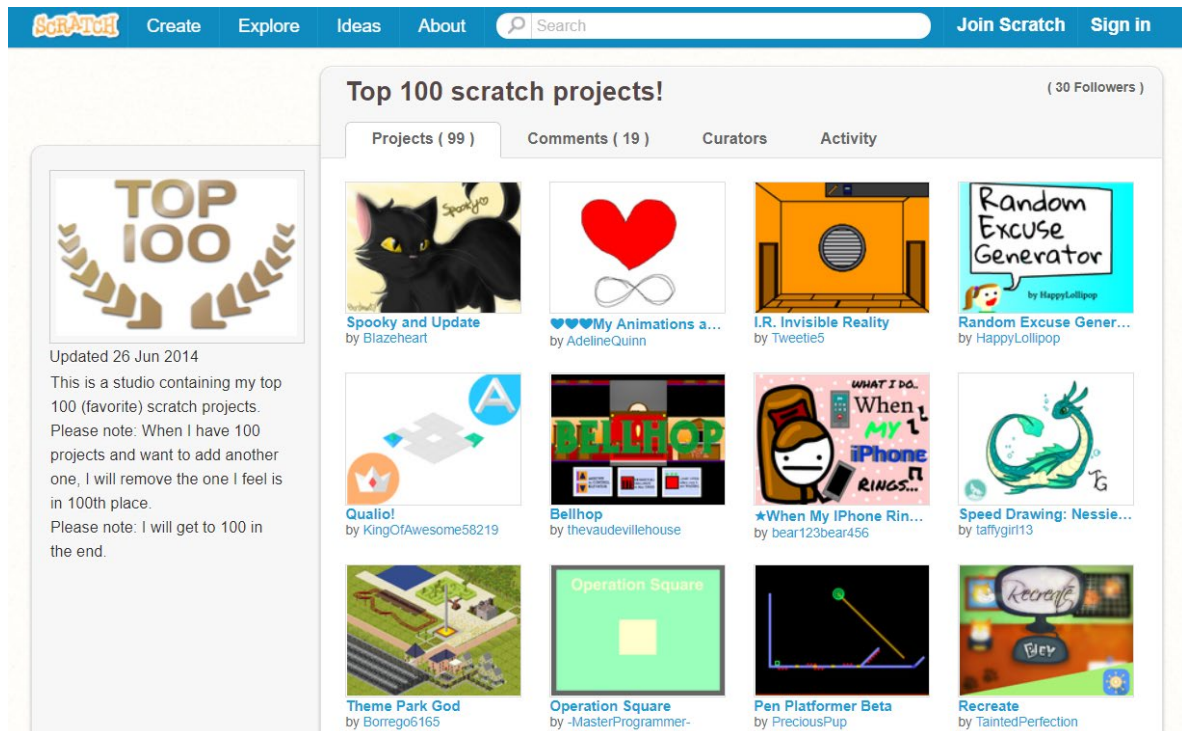
Deciding amongst the type of application available and choosing the most suitable one based on current existing trends and preference.

2.2 – SEARCH FOR INSPIRATION ON THE INTERNET

Look for what type of game concept I could work on and the possibilities of what projects BYOB can make.



Y8 Website



Scratch Studio Website

2.3 – BRAINSTORM IDEAS

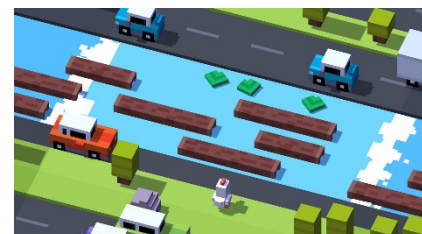
1. Pokemon (Remake)

- 2D Pixel based game
- Let the sprite move around the stage and after several steps, a battle between the sprite and the Pokemon begins



2. Crossy Road (Remix)

- 3D game
- Uses keyboard to move around
- Marks increases as the sprite passes 1 obstacle



3. Escape game (Own idea)

- 2D Pixel game
- Uses mouse to click and keyboard to type in clues
- Has time limit to finish the game

4. Typing race game (Own idea)

- Players are represented with racing cars
- The faster the player types, the faster the car will reach the finishing line
- Has a bot as the opponent

5. Lyrics generator game (Own idea)

- Uses keyboard
- User types in several inputs
- Inputs will be generated into song lyrics
- Has to play several minigames to determine how many words can be determined by the user and how many should be randomized

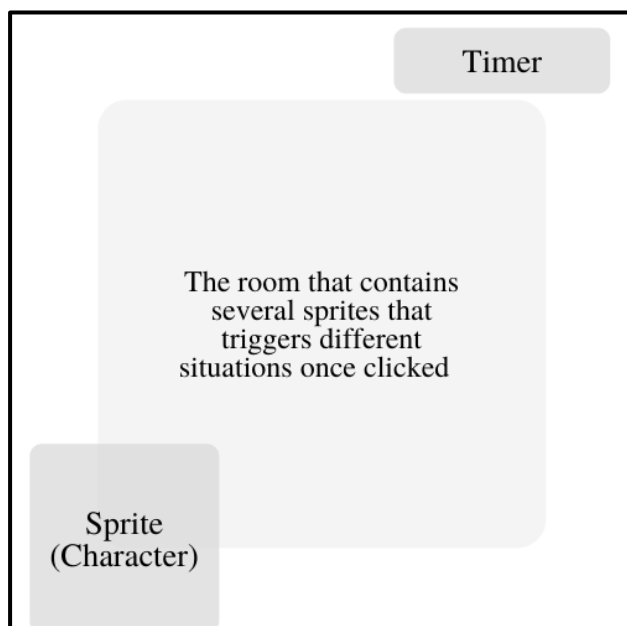


2.4 – DECIDE GAME CONCEPT

Choose an escape game concept after asking for opinions from friends and after consideration of the difficulties of the ideas.

2.5 – SHORT LIST IDEAS AND FEATURES TO BE ADDED INTO THE GAME

Make a list of ideas and features that I could add into the game after brainstorming.



2.6 – PLAN SCHEDULE

Date	Task Done
25 SEPT	<ul style="list-style-type: none">• Decide the type of application to work on which is games• Search for inspiration of what game I could make on the Internet• Brainstorm ideas of the type of game to make
8 OCT	<ul style="list-style-type: none">• Decide to make an escape game• Short list ideas and features to be added into the game• Sketch ideas
11 OCT	<ul style="list-style-type: none">• Search for pixel art and art software on the Internet to be used in the project• Edit the pixel art to be used as sprites• Design the algorithm
13 OCT	Start to code on BYOB
17 OCT	Completed the intro and main stage
19 OCT	Completed the ending for the game
25 OCT	Testing and debugging, while seeking advice from lecturer for help in debugging
3 NOV	Make improvements on the game
14 NOV	Finalizing the whole project with the documentation

2.7 – SEARCH FOR PIXEL ART AND ART SOFTWARE ON THE INTERNET

Using mainly google images as the resource for pixel art and also using art softwares like Pixel Art Maker (<http://pixelartmaker.com/>) and Font Meme (<https://fontmeme.com/pixel-fonts/>) to create and edit the sprites.

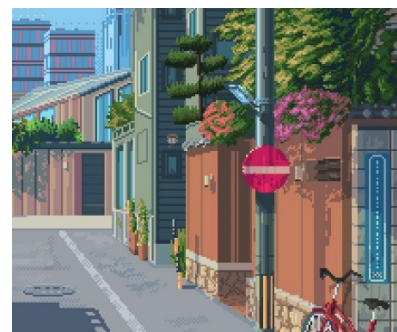
1. Stage:



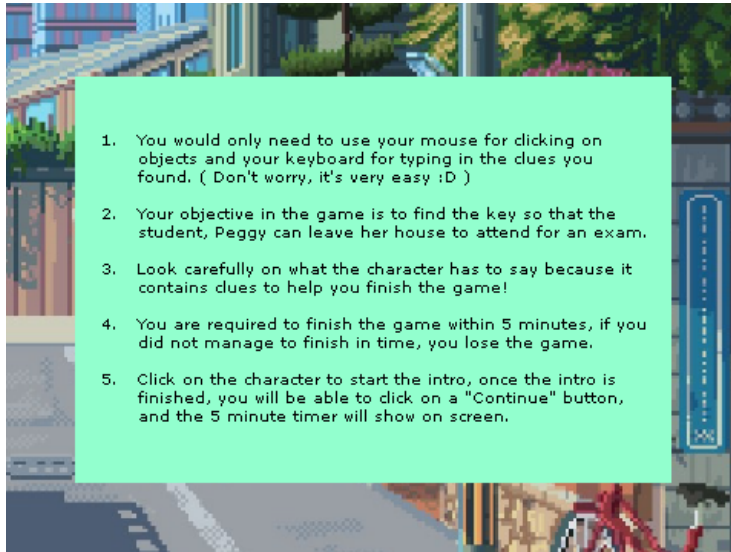
BLACK BACKGROUND



OFFICE



STREET VIEW

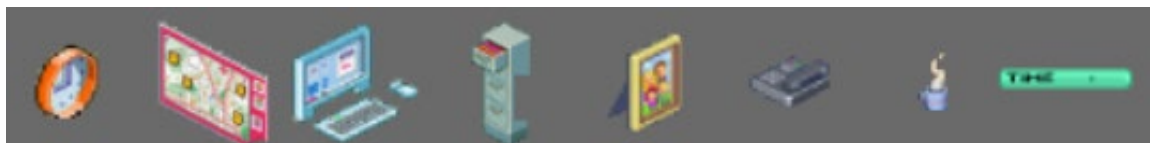


INSTRUCTION

2. Sprite:



PEGGY / VOLUME TELEPHONE CONTINUE DRAWER CAT KEY CONFETTI
PEGGY 2



CLOCK BILLBOARD COMPUTER GREY DRAWER FAMILY PHOTO RANDOM CLICK TELEPHONE COFFEE TIME



BACK HOW TO PLAY

1. Sprite (Font):

- ESCAPE ROOM
- CLICK ME TO START !
- YOU WIN !
- AND YOU WERE RIGHT ON TIME
- FOR THE EXAM ;D
- YOU RAN OUT
- OF TIME...

- [CLICK ME TO RETRY !](#)

2.8 – WRITE ALGORITHM

Refer to [3.2 – FLOW CHART](#) and [3.3 - PSEUDOCODE](#)

2.9 – CODE USING BYOB



Code using Build Your Own Blocks (BYOB)

2.10 – DO TEST RUNS AND RESOLVE BUGS

Refer to [4.0 – TEST RESULTS](#)

2.11 - FINALISE

- Double check every detail of the game.
- Make changes and improvements if needed.
- Let friends test out the game.



3.0 PROGRAM DESIGN

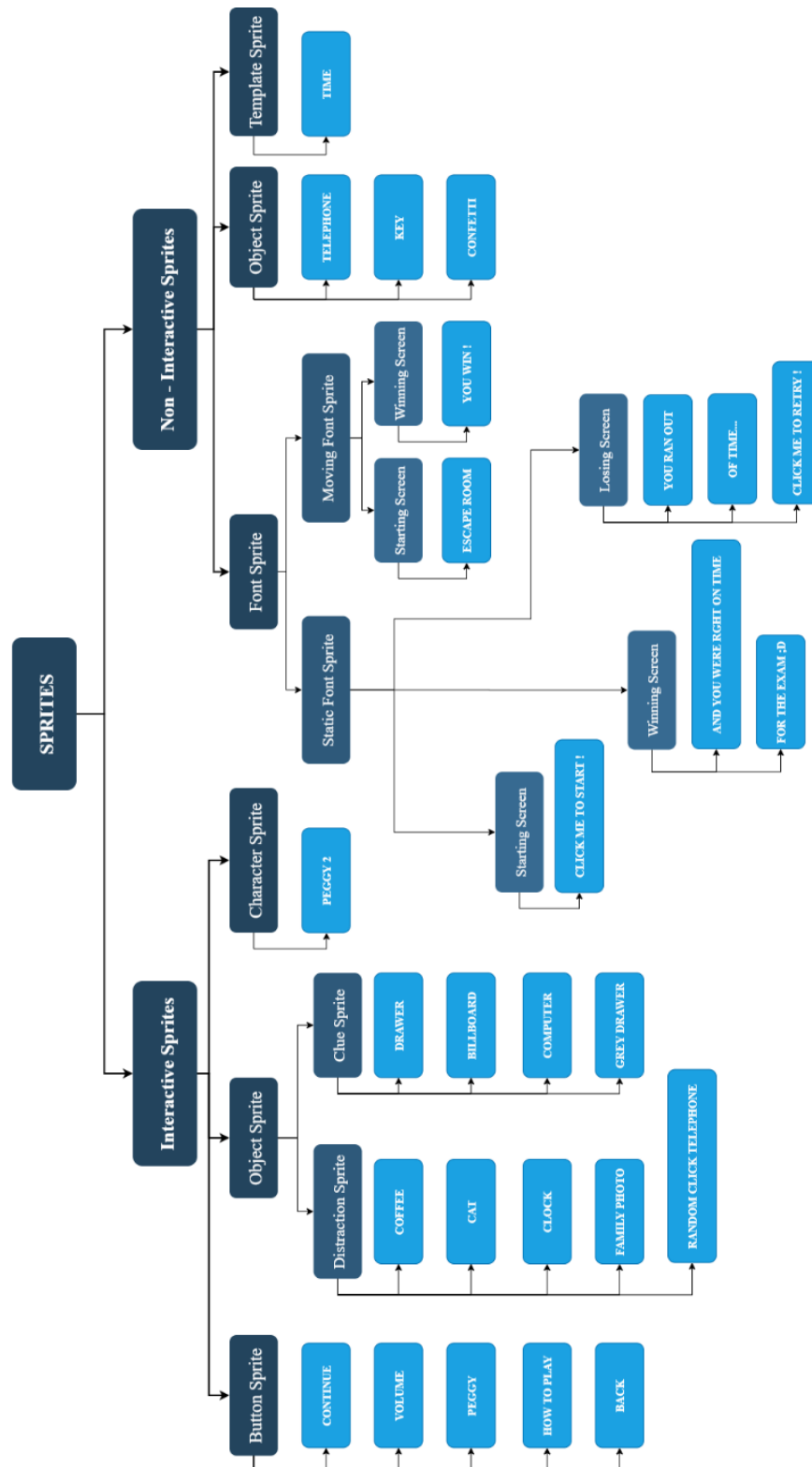
Now it is time to design and create the project.

3.1 – ABSTRACTING AND MODULARIZING

Exploring connections between the whole and the parts.

3.1.1 – SPRITES NEEDED

OVERVIEW :



Interactive Sprites

Button Sprite

Enlarge when hovered and triggers an event when clicked.



CONTINUE

- Appears after the intro is finished.
- Triggers the game and the timer to start when clicked.

- Plays music by default.
- When clicked, the music stops and shows the 2nd costume but plays again if the button is clicked again (1st costume).



1st Costume



2nd Costume

VOLUME



1st Costume

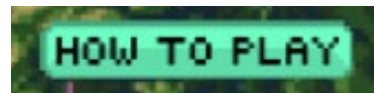


2nd Costume

PEGGY

- Shown in the starting screen.
- Starts the intro when clicked.
- 2nd costume appears when the player loses the game, however it has the same function as the 1st costume.

- Shown in the starting screen.
- Directs to the instruction screen when clicked.



HOW TO PLAY



BACK

- Shown in the instruction screen.
- Returns to the starting screen when clicked.

Object Sprite

Distraction Sprite

- Appears in the gameplay screen.
- Acts as a distraction to the player and does not provide any clues.



COFFEE



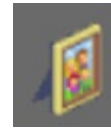
CAT



CLOCK



RANDOM CLICK
TELEPHONE



FAMILY
PHOTO

Object Sprite

Clue Sprite – Acts as a clue for the player to continue the game.



DRAWER

- The player must interact with this sprite first to proceed to the other clue sprites, if not the other clue sprites will not appear.
- Once the player enters the correct passcode for this sprite within the time limit, they win the game.

- Appears after the player interacts with the drawer sprite.
- Triggers the PEGGY 2 sprite to say the first clue when clicked.



BILLBOARD



COMPUTER

- Appears after the player interacts with the drawer sprite.
- Requires a 5-digit password from the first clue to reveal the second clue.
- If the player enters the wrong password, he/she will be required to try again.

- Appears after the player interacts with the drawer sprite.
- Triggers the PEGGY 2 sprite to reveal the last clue if the player manages to choose the right file (from the second clue).
- If the player does not choose the right file, it will trigger the PEGGY 2 sprite to say random statements that are unrelated to the clue, which the player has to retry again to choose the correct file.



GREY DRAWER

Character Sprite



PEGGY 2

- Appears in the intro screen and gameplay screen.
- During the intro, the sprite will interact with the player by asking several questions, then playbacks a conversation between her and her mom through the telephone sprite to brief the player about the storyline and the time limit to finish the game.
- The player will be playing as the character Peggy in the game to help her escape her house to go for an exam. This gives an illusion that the player went back in time and is in charge of deciding Peggy's fate whether she was in time for her exam or not.
- During the gameplay, the sprite will say certain dialogues and clues to assist the player in completing the game when the player clicks on other sprites.

Non-interactive Sprites

Triggers nothing and does not broadcast anything when clicked.

Font Sprite

Static Font Sprite – Font that does not move at all.

- Made to guide the player or display whether the player had won or lost.

Appears in the starting screen :



Appears in the winning screen :



Appears in the losing screen :



Font Sprite

Moving Font Sprite – Font that constantly moves up and down.

- Made to guide the player or display whether the player had won or lost.

Appears in the starting screen :



Appears in the winning screen :



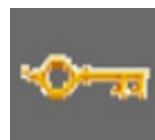
Object Sprite



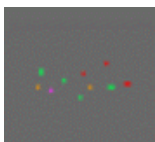
TELEPHONE

- Appears during the intro.
- During the intro, the PEGGY 2 sprite is having a conversation between her and her mom through the sprite to brief the player about the storyline and the time limit to finish the game.

- Appears in the winning screen.
- Made for esthetic purposes to show that the player got the house key to leave the room at the end



KEY



CONFETTI

- Appears in the winning screen.
- The sprite will glide down from the top of the screen to make it look like actual confetti to celebrate the player for completing the game.

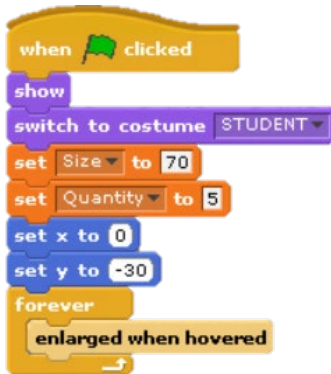
Template Sprite

TIME :

TIME

- Appears in the gameplay screen.
- There will be 2 variables in large readout mode inside this template which is Minutes and Seconds.
- This shows the player how much time they have left.

3.1.2 – SCRIPTS NEEDED



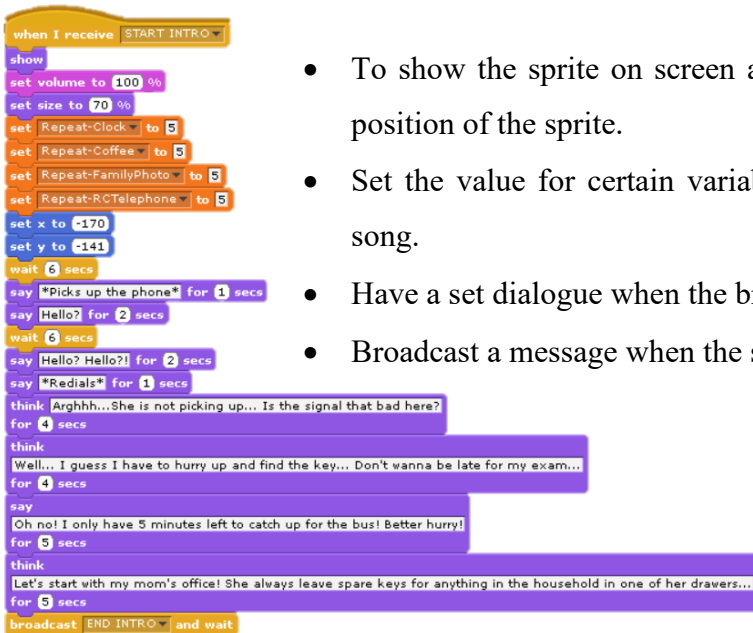
- To show the sprite on screen and set the position, size, and costume of the sprite.
- Set the value of certain variables.
- To enlarge the sprite when the mouse pointer is hovered over the sprite.



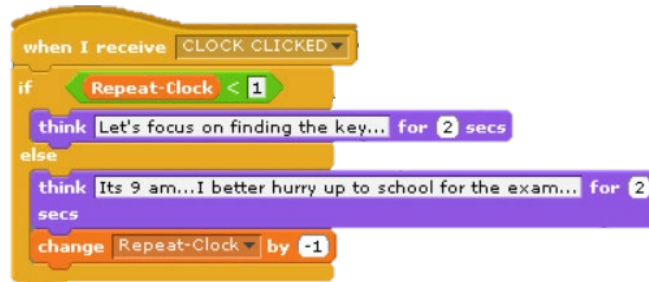
To broadcast a message and hide the sprite when the sprite is clicked.



To hide the sprite when the broadcast message is received / “green flag” is clicked.



- To show the sprite on screen and set the size as well as the position of the sprite.
- Set the value for certain variables and volume for a certain song.
- Have a set dialogue when the broadcast message is received.
- Broadcast a message when the script ends.



Repeats a set dialogue only for a few times, and changes to another dialogue afterwards when the broadcast message is received.

```

when I receive PEGGY CLICKED
show
set size to 70 %
set x to 0
set y to -30
say Hello! for 2 secs
ask My name is Peggy! What's your name? and wait
set Player'sName to answer
say join Nice to meet you, join Player'sName 1 for 3 secs
ask
Do you want know how I was locked inside my house just minutes before the exam? Yes or No?
and wait
set Answer to answer
repeat until Answer = Yes
ask Awww... Come on... It is going to be interesting! Yes or No?
and wait
set Answer to answer
say Nice! for 2 secs
say I remember hearing the sound of a telephone ring... for 3 secs
set volume to 0 %
broadcast PLAY PLAYBACK SE
repeat 70
change size by -1
hide
wait 1 secs
broadcast START INTRO

```

- To request inputs from the player which is their name and reply.
- Repeats the second question about if the player wants to listen to Peggy's story (which is the whole gameplay) until the player replies "Yes".
- Broadcast a message after the sprite finishes the dialogue and sets the volume of a certain song to 0.
- Creates a zoom out effect after the sprite broadcasted a message.
- Broadcasts another message after the sprite zooms out.

```

when I receive DRAWER CLICKED
wait 1 secs
think Hmm...I guess I'll have to look around for a passcode... for 2 secs
broadcast RANDOM TRIAL AND ERROR

```

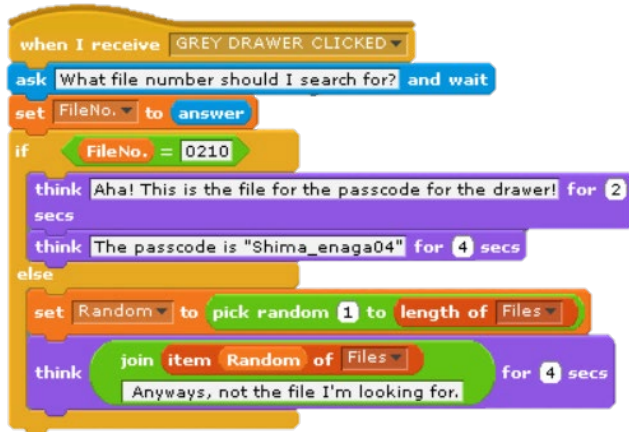
Says a dialogue when the broadcast message is received and broadcast another message when the script ends.

```

when I receive BILLBOARD CLICKED
think
The sticky notes wrote : The passcode for the computer is the number of books in the bookshelf
for 4 secs

```

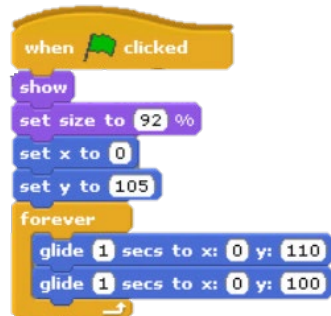
Says a dialogue when the broadcast message is received.



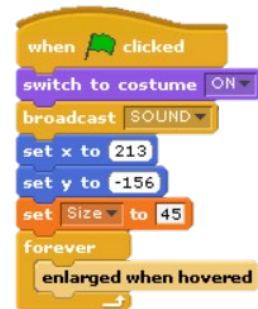
- Ask the player for an input and gives different outcomes depending on the input.
- A clue will be given for the correct input.
- A randomized dialogue will be given for the wrong input.



To say a dialogue when the sprite is clicked.



- To show the sprite on screen and set the size and position of the sprite.
- To let the sprite glide up and down, creating a floating effect.



- To set the costume, size and position of the sprite.
- To play music when the specific costume is showed.
- To enlarge the sprite when the mouse pointer is hovered over the sprite.



To switch to the next costume and stop all sounds when the sprite is clicked.



To set the volume of a certain song to 100% and plays a sound if the costume number of the VOLUME button is still 1 when the broadcast message is received.



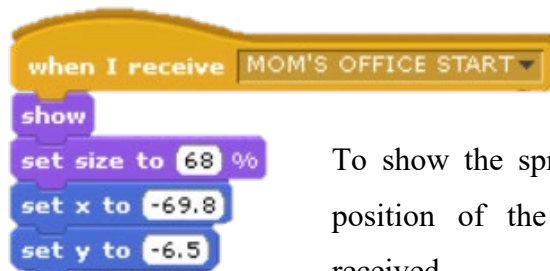
To stop all sounds when the broadcast message is received.



- To show the sprite on screen and set the position of the sprite.
- To say a set dialogue when the broadcast message is received.



- Broadcast a message when the sprite is clicked.
- Ask the player for an input and gives different outcomes depending on the input.
- A message will be broadcasted for the correct input. (which in this case enables the player to win the game)
- A set dialogue will be given for the wrong input.



To show the sprite on screen as well as set the size and position of the sprite when the broadcast message is received.



To broadcast a message when the sprite is clicked.

```

when I receive ESCAPED
show
set size to 200 %
set x to 0
set y to 133
glide 1.5 secs to x: 0 y: -350

```

- To show the sprite on screen as well as set the size and position of the sprite.
- To let the sprite glide down the screen to make a falling effect.

```

when I receive MOM'S OFFICE START
show
set x to 112
set y to 144
set size to 52 %
set Minute to 4
set Seconds to 59
show variable Minute
show variable Seconds
forever
wait 1 secs
change Seconds by -1
if y position of CONFETTI = -350
stop script
if Minute = 0 and Seconds = 0
broadcast LOST
stop script
if Seconds = 0
wait 1 secs
change Minute by -1
set Seconds to 59

```

- To show the sprite on screen as well as set the size and position of the sprite.
- To set the values of certain variables and show them on the screen.
- To act as a 5-minute timer for the players so that they can know how much time they have left.
- If the timer runs out before the player manages to finish the game, the player loses the game.
- To stop the timer when the players finishes the game so that the losing screen would not activate suddenly when the player is in the winning screen.

```

when clicked
switch to background STREET VIEW

when I receive MOM'S OFFICE START
switch to background OFFICE

```

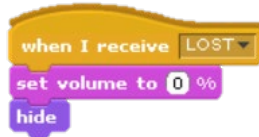
Switches the background when the “green flag” is clicked / when the broadcast message is received.

```

when I receive START INTRO
switch to background BLACK BACKGROUND
if costume # of VOLUME = 1
play sound Telephone Ring

```

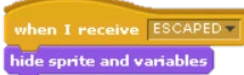
Switches the background and plays a sound if the costume number of the VOLUME button is still 1 when the broadcast message is received.



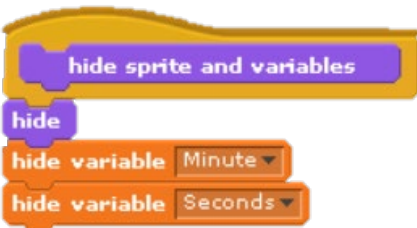
To set the volume of a certain sound to 0% and hide the sprite when the broadcast message is received.



Hides the sprites and variables when the “green flag” is clicked / when the broadcast message is received.



To enlarge the sprite when the mouse pointer is hovered over the sprite.



To hide the sprite as well as the Minute and Seconds variable.

3.1.3 – BACKDROP USED



STARTING SCREEN & WINNING SCREEN

Starting screen : Contains a button that starts the game.

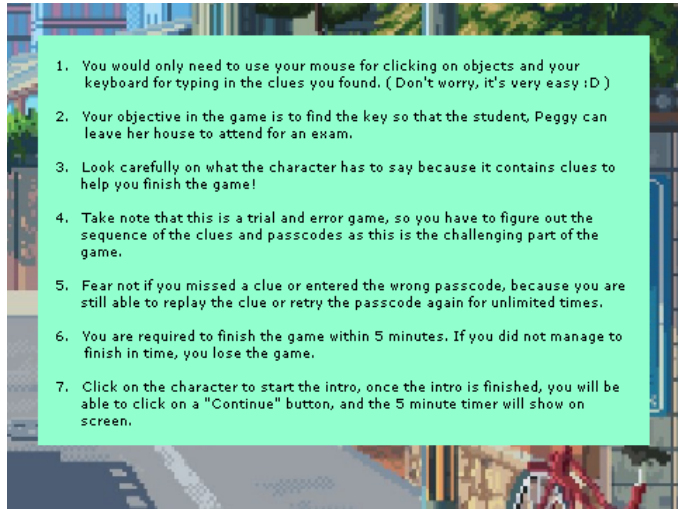
Winning Screen : Appears when the player finishes the game within 5 minutes.

INSTRUCTION

SCREEN

Shows the instructions on how to play the game, the game's objective and time limit.

1. You would only need to use your mouse for clicking on objects and your keyboard for typing in the clues you found. (Don't worry, it's very easy :D)
2. Your objective in the game is to find the key so that the student, Peggy can leave her house to attend for an exam.
3. Look carefully on what the character has to say because it contains clues to help you finish the game!
4. Take note that this is a trial and error game, so you have to figure out the sequence of the clues and passcodes as this is the challenging part of the game.
5. Fear not if you missed a clue or entered the wrong passcode, because you are still able to replay the clue or retry the passcode again for unlimited times.
6. You are required to finish the game within 5 minutes. If you did not manage to finish in time, you lose the game.
7. Click on the character to start the intro, once the intro is finished, you will be able to click on a "Continue" button, and the 5 minute timer will show on screen.



INTRO SCREEN & LOSING

SCREEN

Intro : To brief the player about the storyline and the time limit to finish the game.

Losing Screen : Appears when the player is unable to finish the game within 5 minutes and contains a button that lets the player retry.

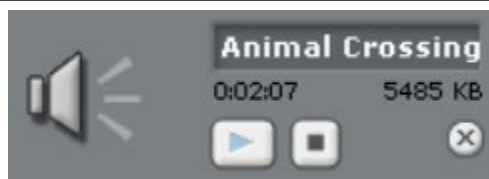


MAIN SCREEN

Where the gameplay section is and the 5-minute timer is started the moment this screen appears.



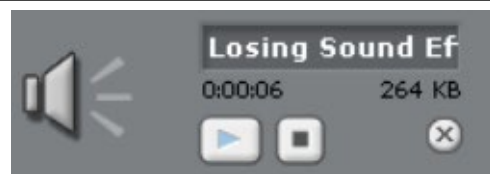
3.1.4 – SOUND USED



play sound Animal Crossing ▼

Animal Crossing

A cheerful music from the popular game “Animal Crossing” as a background music.



play sound Losing Sound Effect ▼

Losing Sound Effect

This will appear when the player loses the game (unable to finish the game in 5 minutes).



play sound Telephone Ring ▼

Telephone Ring

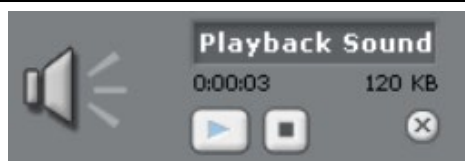
This will appear during the intro to show the ringing of a telephone.



play sound Clapping Sound Effect ▼

Clapping Sound Effect

This will appear when the player finishes the game within 5 minutes.

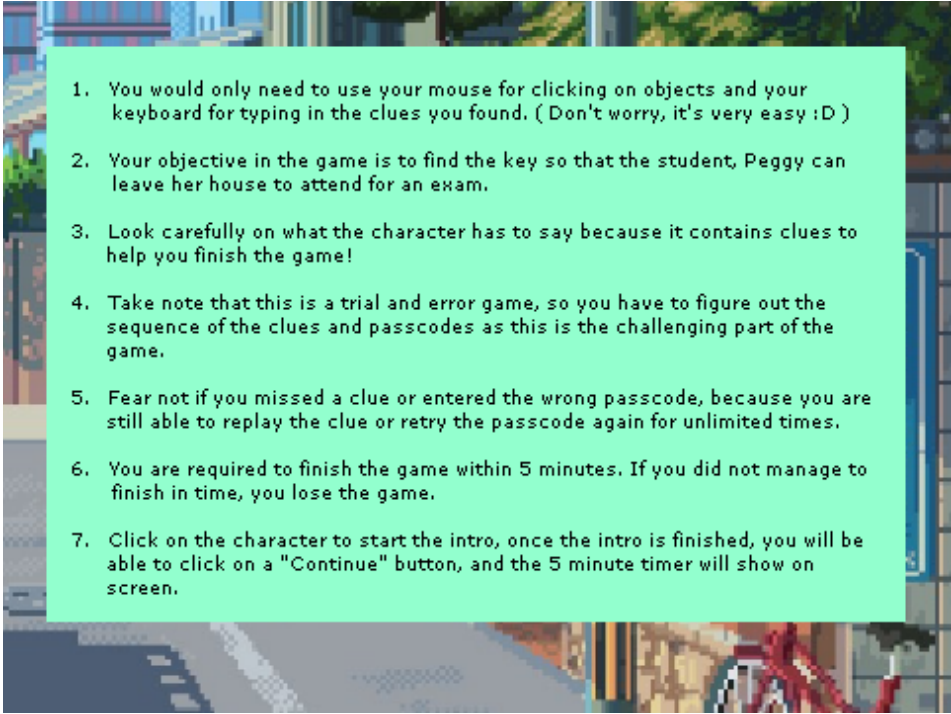


play sound Playback Sound Effect ▼

Playback Sound Effect

This will appear during the intro to show that the player is going back in time (going to the past).

3.1.5 - INSTRUCTION



1. You would only need to use your mouse for clicking on objects and your keyboard for typing in the clues you found. (Don't worry, it's very easy :D)

2. Your objective in the game is to find the key so that the student, Peggy can leave her house to attend for an exam.

3. Look carefully on what the character has to say because it contains clues to help you finish the game!

4. Take note that this is a trial and error game, so you have to figure out the sequence of the clues and passcodes as this is the challenging part of the game.

5. Fear not if you missed a clue or entered the wrong passcode, because you are still able to replay the clue or retry the passcode again for unlimited times.

6. You are required to finish the game within 5 minutes. If you did not manage to finish in time, you lose the game.

7. Click on the character to start the intro, once the intro is finished, you will be able to click on a "Continue" button, and the 5 minute timer will show on screen.

The instructions are written in the instruction page. More detailed version will be in **5.0 USER'S MANUAL BOOK**

3.1.6 – PHASES OF THE PROJECT

EARLY

- Search for pixel art and art software on the Internet to be used in the project
- Edit the pixel art to be used as sprites
- Designing the clues and passcodes to be used in the gameplay

MIDDLE

- Insert and set the size, position, costume of the sprites
- Code on the starting page, intro page, and main page
- Run several tests throughout the coding process

FINISH

- Code on the winning page and losing page
- Edit and insert background song and sound effects
- Testing and debugging

3.1.7 – VARIABLES USED

ComputerPasscode

Used to take note of the player's input for the passcode of the computer sprite.

DrawerPasscode

Used to take note of the player's input for the passcode of the drawer sprite.

FileNo.

Used to take note of the player's input for the file number of the grey drawer sprite.

Random

Used to pick a random item from the Files list when the player inputs the wrong file number in the FileNo. Variable.

Repeat-Clock

Repeat-Coffee

Repeat-FamilyPhoto

Repeat-RCTelephone

Used to take note of how many times the player repeats the set dialogue and will show another dialogue after the player repeats the first dialogue for a few times.

- Repeat-Clock Variable
 - For the CLOCK sprite
- Repeat-Coffee Variable
 - For the COFFEE sprite
- Repeat-FamilyPhoto
 - For the FAMILY PHOTO sprite
- Repeat-RCTelephone
 - For the RANDOM CLICK TELEPHONE sprite

Minute

TIME 4 : 57

Used as a timer to show how many minutes are left. Shown at the left in the TIME sprite.

Seconds

TIME 4 : 57

Used as a timer to show how many minutes are left. Shown at the right in the TIME sprite.

Size

A local variable to set the size of a button which helps in making those buttons to be able to enlarge when it is hovered by the mouse pointer.

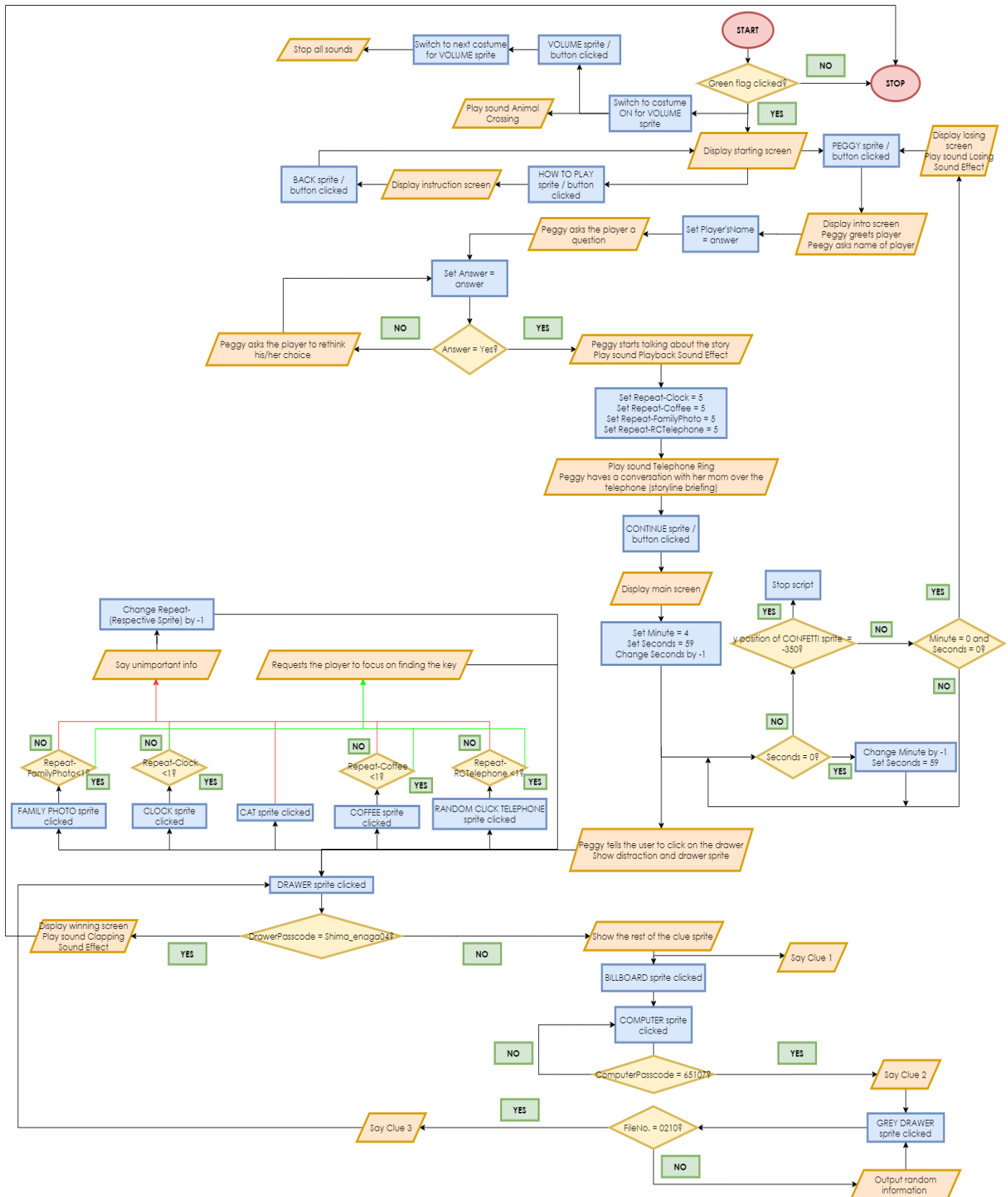
Player'sName

Used to take note of the player's name for a dialogue.

Answer

Used to take note of the player's reply to a question. The next scenario will start only when the variable's value is "Yes".

3.2 – FLOW CHART



NOTE : If you want to view this flowchart on a closer view, you can refer to the link at 7.0 REFERENCES, reference number 20.

3.3 - PSEUDOCODE

NOTE: Certain sprites are grouped into categories. Please refer to 3.1.1 – SPRITES NEEDED for reference

START

When green flag clicked

Change to background STREET VIEW

Hide PEGGY 2 sprite, winning screen static font sprites and moving font sprites, losing screen static font sprites, BACK sprite, interactive and non-interactive object sprites, and CONTINUE sprite

Custom block hide sprite and variable for TIME sprite

Hide sprite

Hide variable Minute

Hide variable Seconds

Show starting screen static font sprite, starting screen moving font sprite, PEGGY sprite, VOLUME sprite and HOW TO PLAY sprite

Switch to costume ON for VOLUME sprite

Broadcast SOUND

Set Size for VOLUME sprite to 45

Forever

Custom block enlarged when hovered

If touching mouse-pointer

Set size to Size + 5%

Else

Set size to Size%

Set Size for HOW TO PLAY sprite to 25

Switch to costume STUDENT for PEGGY sprite

Set Size for PEGGY sprite to 70

Forever for HOW TO PLAY sprite and PEGGY sprite

Custom block enlarged when hovered

Forever for starting screen moving font sprite

Moves up and down

When VOLUME sprite clicked

VOLUME sprite changes to the next costume

Broadcast NO SOUND

When receive SOUND

Set volume of sound Animal Crossing to 100%

Forever if costume #number = 1 for VOLUME sprite

Play sound Animal Crossing

When receive NO SOUND

Stop all sounds for PEGGY 2 sprite

When HOW TO PLAY sprite clicked

Broadcast HOW TO PLAY CLICKED

When receive HOW TO PLAY CLICKED

Change to background INSTRUCTION

Hide PEGGY 2 sprite, font sprites, interactive and non-interactive object sprites,
PEGGY sprite, HOW TO PLAY sprite and CONTINUE sprite

Custom block hide sprite and variable for TIME sprite

Show BACK sprite

Forever for BACK sprite

Custom block enlarged when hovered

When BACK sprite clicked

Broadcast BACK CLICKED

When receive BACK CLICKED

Change to background STREET VIEW

Hide PEGGY 2 sprite, winning screen static font sprites and moving font sprites,
losing screen static font sprites, BACK sprite, interactive and non-interactive
object sprites, and CONTINUE sprite

Custom block hide sprite and variable for TIME sprite

Show starting screen static font sprite, starting screen moving font sprite, PEGGY
sprite, and HOW TO PLAY sprite

When PEGGY sprite clicked

Broadcast PEGGY CLICKED

Hide PEGGY Sprite

When receive PEGGY CLICKED

Change to background BLACK BACKGROUND

Hide font sprites, interactive and non-interactive object sprites, HOW TO PLAY
sprite, BACK sprite and CONTINUE sprite

Custom block hide sprite and variable for TIME sprite

Show PEGGY 2 sprite

Peggy greets the player

Peggy asks name of player

Set Player'sName to answer

Peggy asks the player a question (If the player wants to know how Peggy was
locked inside her house just minutes before the exam)

Set Answer to answer

Repeat until Answer = "Yes"

Ask the player to rethink his/her choice

Set Answer to answer

Peggy starts talking about the story

Set volume of sound Animal Crossing to 0%

Broadcast PLAY PLAYBACK SE

Peggy zooms out and disappears

Hide PEGGY 2 sprite

Broadcast START INTRO

When receive PLAY PLAYBACK SE

If costume #number of VOLUME sprite = 1

Play sound Playback Sound Effect

When receive START INTRO

Change to background BLACK BACKGROUND

Hide font sprites, interactive object sprites, KEY sprite, CONFETTI sprite , PEGGY sprite, HOW TO PLAY sprite, BACK sprite and CONTINUE sprite

Custom block hide sprite and variable for TIME sprite

Set volume of sound Animal Crossing to 100%

Set Repeat-Clock to 5

Set Repeat-Coffee to 5

Set Repeat-FamilyPhoto to 5

Set Repeat-RCTelephone to 5

If costume #number of VOLUME sprite = 1

Play sound Telephone Ring

Show PEGGY 2 sprite and TELEPHONE sprite

Peggy has a conversation with her mom over the telephone (storyline briefing)

Broadcast END INTRO

When receive END INTRO

Hide font sprites, interactive object sprites, KEY sprite, CONFETTI sprite, PEGGY sprite, HOW TO PLAY sprite, BACK sprite and CONTINUE sprite

Custom block hide sprite and variable for TIME sprite

Show PEGGY 2 sprite, TELEPHONE sprite and CONTINUE sprite

Set size for CONTINUE sprite to 45

Forever for CONTINUE sprite

Custom block enlarged when hovered

When CONTINUE sprite clicked

Broadcast MOM'S OFFICE START

When receive MOM'S OFFICE START

Change background to OFFICE

Hide PEGGY sprite, font sprites, clue sprites, non-interactive object sprites,

PEGGY sprite, HOW TO PLAY sprite, BACK sprite and CONTINUE sprite
Show DRAWER sprite, distraction sprites, TIME sprite and PEGGY 2 sprite

Set Minute to 4

Set Seconds to 59

Show variable Minutes

Show variables Seconds

Forever for TIME sprite

Wait 1 sec

Change Seconds by -1

If y position of CONFETTI sprite = -350

Stop script

If Minute = 0 and Seconds = 0

Broadcast LOST

Stop script

If Seconds = 0

Wait 1 sec

Change Minute by -1

Set Seconds to 59

Peggy tells the user to click on the drawer

When DRAWER clicked

Broadcast DRAWER CLICKED

Ask player to enter the passcode

Set DrawerPasscode to answer

If DrawerPasscode = Shima _enaga04

Broadcast ESCAPED

Else

Say "Please try again!" for 2 secs

When CLOCK clicked

Broadcast CLOCK CLICKED

When receive CLOCK CLICKED

Hide PEGGY sprite, font sprites, non-interactive object sprites, HOW TO PLAY
sprite, BACK sprite and CONTINUE sprite

If Repeat-Clock < 1 for PEGGY 2 sprite

Think "Let's focus on finding the key..." for 2 secs

Else

Think "Its 9 am...I better hurry up to school for the exam..." for 2 secs

Change Repeat-Clock by -1

When FAMILY PHOTO clicked

Broadcast FAMILY PHOTO CLICKED

When receive FAMILY PHOTO CLICKED

Hide PEGGY sprite, font sprites, non-interactive object sprites, HOW TO PLAY sprite, BACK sprite and CONTINUE sprite

If Repeat-FamilyPhoto < 1 for PEGGY 2 sprite

Think "Let's focus on finding the key..." for 2 secs

Else

Think "That's a photo of my family. I love them." for 2 secs

Change Repeat-FamilyPhoto by -1

When RANDOM CLICK TELEPHONE clicked

Broadcast RANDOM CLICK TELEPHONE CLICKED

When receive RANDOM CLICK TELEPHONE CLICKED

Hide PEGGY sprite, font sprites, non-interactive object sprites, HOW TO PLAY sprite, BACK sprite and CONTINUE sprite

If Repeat-RCTelephone < 1 for PEGGY 2 sprite

Think "Let's focus on finding the key..." for 2 secs

Else

Think "She is not picking up..." for 2 secs

Change Repeat-RCTelephone by -1

When COFFEE clicked

Broadcast COFFEE CLICKED

When receive COFFEE CLICKED

Hide PEGGY sprite, font sprites, non-interactive object sprites, HOW TO PLAY sprite, BACK sprite and CONTINUE sprite

If Repeat-Coffee < 1 for PEGGY 2 sprite

Think "Let's focus on finding the key..." for 2 secs

Else

Think "I just made that coffee a while ago. It's still warm..." for 2 secs

Change Repeat-Coffee by -1

When CAT clicked

CAT sprite says "Meow~" for 2 secs

When receive DRAWER CLICKED

Hide PEGGY sprite, font sprites, BILLBOARD sprite, COMPUTER sprite, GREY DRAWER sprite, non-interactive object sprites, HOW TO PLAY sprite, BACK sprite and CONTINUE sprite

Think "Hmm...I guess I'll have to look around for a passcode..." for 2 secs for PEGGY 2 sprite

Broadcast RANDOM TRIAL AND ERROR

When receive RANDOM TRIAL AND ERROR

Hide PEGGY sprite, font sprites, non-interactive object sprites, HOW TO PLAY

sprite, BACK sprite and CONTINUE sprite

Show BILLBOARD sprite, COMPUTER sprite, and GREY DRAWER sprite

When BILLBOARD clicked

Broadcast BILLBOARD CLICKED

When receive BILLBOARD CLICKED

Hide PEGGY sprite, font sprites, non-interactive object sprites, HOW TO PLAY sprite, BACK sprite and CONTINUE sprite

Peggy shows the player Clue 1

When COMPUTER clicked

Ask player to enter a 5 digit password

Set ComputerPasscode to answer

If ComputerPasscode = 65107

Broadcast LOGIN SUCCESSFUL

Say “*Login successful*” for 2 secs

Else

Say “*Incorrect. Please try again later!*” for 2 secs

When receive LOGIN SUCCESSFUL

Hide PEGGY sprite, font sprites, non-interactive object sprites, HOW TO PLAY sprite, BACK sprite and CONTINUE sprite

Peggy shows the player Clue 2

When GREY DRAWER clicked

Broadcast GREY DRAWER CLICKED

When receive GREY DRAWER CLICKED

Hide PEGGY sprite, font sprites, non-interactive object sprites, HOW TO PLAY sprite, BACK sprite and CONTINUE sprite

Peggy ask player what file number should she search for

Set FileNo. To answer

If FileNo. = 0210

Peggy shows the player Clue 3

Else

Set Random to pick random 1 to length of Files

Think join item Random of Files “Anyways, not the file I’m looking for.” for 4 secs

When receive ESCAPED

Change to background STREET VIEW

Hide PEGGY sprite, PEGGY 2 sprite, starting screen static font sprites and moving font sprites, losing screen static font sprites, interactive object sprites, TELEPHONE sprite, HOW TO PLAY sprite, BACK sprite and CONTINUE sprite

Custom block hide sprite and variable for TIME sprite

Show winning screen static font sprites, winning screen moving font sprite, KEY sprite, and CONFETTI sprite

If costume #number of VOLUME sprite = 1

Play sound Clapping Sound Effect

CONFETTI sprite slides down screen

Forever for winning screen moving font sprite

Moves up and down

When receive LOST

Change to background BLACK BACKGROUND

Hide PEGGY 2 sprite, starting screen and winning screen static font sprites and moving font sprites, interactive and non-interactive object sprites, HOW TO PLAY sprite, BACK sprite and CONTINUE sprite

Custom block hide sprite and variable for TIME sprite

Show losing screen static font sprites and PEGGY sprite

Set volume of sound Animal Crossing to 0%

If costume #number of VOLUME sprite = 1

Play sound Losing Sound Effect

Switch to costume CRYING STUDENT for PEGGY sprite

Forever for PEGGY sprite

Custom block enlarged when hovered

END

4.0 TEST RESULTS

As part of the project design process you will need to debug your project. This means that you must test the different parts of your project to make sure it is working correctly.

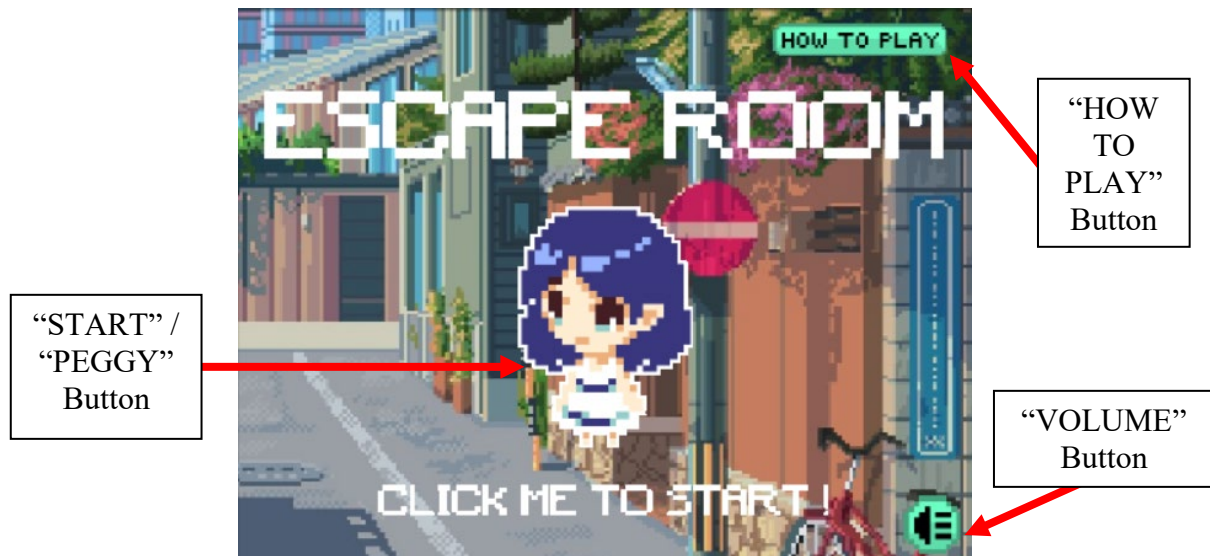
TEST ID	TEST CASE	EXPECTED RESULTS	ACTUAL RESULTS
ER01A	Pressing the PLAYER / start button on the starting screen	Will redirect to the next page and will never reactivate again when clicked	(Failed) Redirects to the next page but it reactivates when the user clicks anywhere
ER01B	Pressing the PLAYER / start button on the starting screen after changing mouse down to when sprite clicked	Will redirect to the next page and will never reactivate again when clicked	(Failed) Redirects to the next page but it reactivates when it is clicked again
ER01C	Pressing the PLAYER / start button on the starting screen after adding stop script	Will redirect to the next page and will never reactivate again when clicked	(Failed) Redirects to the next page but it reactivates when it is clicked again
ER01D	Pressing the PLAYER / start button on the starting screen after adding another identical sprite and hiding the original PLAYER / start button after redirecting to the next page	Will redirect to the next page and will never reactivate again when clicked	(Success) Redirects to the next page and never reactivates again
ER02	In sync dialogue during the intro	The dialogue for the PLAYER 2 sprite and TELEPHONE are in sync, and not too fast	(Success) The dialogue between the 2 sprites are in sync, and it is not too fast too
ER03A	VOLUME button is able to mute and play the song Animal Crossing when pressed, according to its costume using repeat until	Sound will be played when the VOLUME button is in costume number 1, and the sound will stop when it is in costume number 2 every time	(Failed) Sound can only be played and muted once
ER03B	VOLUME button is able to mute and play the song	Sound will be played when the VOLUME button shows	(Success) Sound can be played and muted more

	Animal Crossing when pressed, according to its costume using forever if	costume number 1, and the sound will stop when it shows costume number 2 every time	than once, while following costume number
ER04	Sound effects will not be played when the VOLUME button is shown as muted	Sound effects will not play when the VOLUME button shows costume number 2	(Success) Sound effects did not play when the VOLUME button shows costume number 2
ER05A	Looping of the song Animal Crossing using repeat until	The song Animal Crossing will loop when it ends after muting and unmuting it several times	(Failed) The song Animal Crossing is unable to loop when it ends
ER05B	Looping of the song Animal Crossing using forever if	The song Animal Crossing will loop when it ends after muting and unmuting it several times	(Success) The song Animal Crossing is able to loop when it ends after muting and unmuting it several times
ER06A	Stopwatch is working properly and redirects to losing screen when the time reaches 0	Stopwatch is able to work properly by counting down to 0 and redirects to the losing screen	(Failed) The stopwatch continues after reaching 0, leading it to a negative number without redirecting to the losing screen
ER06B	Stopwatch is working properly and redirects to losing screen when the time reaches 0 (after adjusting waiting period)	Stopwatch is able to work properly by counting down to 0 and redirects to the losing screen	(Success) The stopwatch is able to work properly by counting down to 0 and redirects to the losing screen
ER07A	Make sure that the timer doesn't continue after the player wins the game	The timer will stop when the player finishes the game so it does not redirect to the losing screen suddenly when the winning screen is being displayed	(Failed) The timer does not stop when the player finishes the game and it redirects to the losing screen suddenly when the winning screen is being displayed
ER07B	Make sure that the timer	The timer will stop when the	(Success) The timer

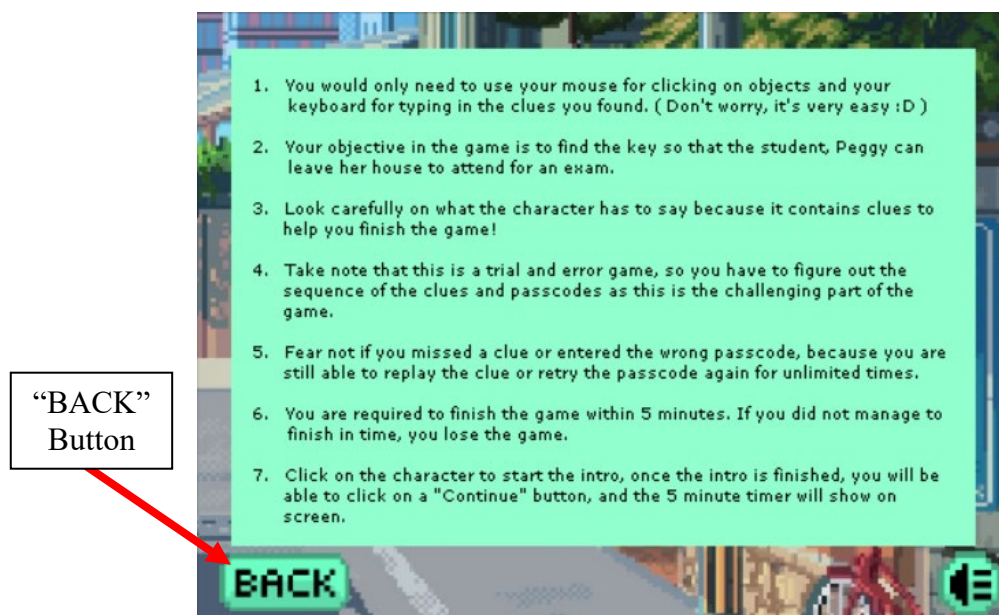
	doesn't continue after the player wins the game (after doing some adjustments to the script for TIME sprite)	player finishes the game so it does not redirect to the losing screen suddenly when the winning screen is being displayed	stops when the player finishes the game and it does not redirects to the losing screen suddenly when the winning screen is being displayed
ER08A	See if any sprite comes in when it shouldn't	All sprites appears and hides when it should	(Failed) Certain sprites appears in the wrong time
ER08B	See if any sprite comes in when it shouldn't after placing hide sprites for most of the event handlers	All sprites appears and hides when it should	(Success) All sprites appears and hides when it should
ER09A	See if the VOLUME sprite enlarge when hovered	VOLUME sprite will always enlarge when hovered while acting as a muting button	(Failed)VOLUME sprite can't enlarge when hovered for the first time but acts as a mute button
ER09B	See if the VOLUME sprite enlarge when hovered (after putting forever if and the sound to another sprite, and also adding broadcasts)	VOLUME sprite will always enlarge when hovered while acting as a muting button	(Success) VOLUME sprite always enlarge when hovered while acting as a muting button
ER10	See if certain clues will be displayed when the player types the correct passcodes	Clue 1, clue 2 and clue 3 will be displayed when the player types the respective correct passcodes	(Success) Clue 1, clue 2 and clue 3 is displayed when the player types the respective correct passcodes
ER11	See if PEGGY 2 sprite repeats the question if the player says anything other than "yes"	PEGGY 2 sprite will repeat the question if the player inputs anything other than "yes" for unlimited times	(Success) PEGGY 2 sprite repeats the question if the player inputs anything other than "yes" for unlimited times

5.0 USER'S MANUAL BOOK

5.1 – INTRODUCTION



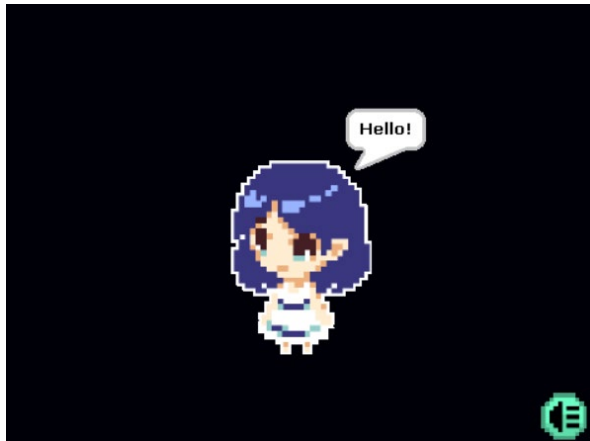
1. When the green flag is clicked, the player will be directed to the main screen of the game. The player can choose to start the game straightaway by pressing the “START” / “PEGGY” button or by pressing on the “HOW TO PLAY” button.
2. The player can press on the “VOLUME” button anytime in the game to mute all sounds in the game, including sound effects.



3. When the “HOW TO PLAY” button is clicked, the player will be directed to the instruction screen of the game, which shows the player instructions on how to play the

game. The player can return to the main screen of the game by pressing the “BACK” button.

5.2 – GAMEPLAY (INTRO)



1. After the player clicks on the “START” / “PEGGY” button, it will redirect them to the intro screen.
2. The sprite named Peggy will greet the player and ask his/her name.
3. After asking the player’s name, Peggy will ask the player if they want to know the story of how she was locked inside her house just minutes before the exam.



4. If the player replies “Yes”, then only the next scenario will start. If the player replies any other answer than “Yes”, Peggy would only repeat the same dialogue, until the player replies “Yes”.



5. After the player replies “Yes”, the next scenario starts, and this is where the player is going to play as Peggy in the story.



6. The story tells why Peggy’s house key was not with her and why she could not ask her mom about the location of the spare key.



7. The story will also tell the player that Peggy only has 5 minutes to find the key because she needs to hurry to school for her exam. Hence this is why a 5-minute timer will start during the gameplay.



8. Peggy will then say that the spare key would be in her mom's office, and proceeds to head there to find the key.



9. After the dialogue finishes, a "CONTINUE" button will appear at the bottom of the screen and clicking the button will lead to the actual gameplay.

5.3 – GAMEPLAY



1. Once the “CONTINUE” button from the intro is clicked, the gameplay screen will be shown.
2. The 5-minute timer starts straightaway when the player reaches this screen.
3. Peggy would give clues on what the player should do to find the clues to finish the game. She will ask the player to click a drawer, and the player has to figure out which drawer in the game is she referring to by clicking on the objects.



4. Once the player clicks on the right drawer, he/she will figure out that the drawer requires a passcode.





5. The player would then have to click around to find clues and passcodes for certain objects. As you can see from the pictures above, there are 3 main clues in the game that will help the player in finishing the game. However, there are certain distractions in the game as well that is not related to any clues in the game or passcodes to finish the game.
6. The player has to remember that this is a trial and error game, and the player has to think about how the sequence of the clues and passcodes should be as this is the challenging part of the game.
7. Even if the player misses a clue, or entered the wrong passcode, they are still able to replay the clue or retry the passcode again for unlimited times.
8. Once the player manages to find the passcode for the drawer that they first interacted, the player finishes the game.

5.4 - ENDINGS



1. After the player entered the correct passcode for the drawer within 5 minutes, the player wins the game.

2. The player can click on the green flag if they want to restart the game and play again.



3. If the player did not manage to enter the correct passcode for the drawer within 5 minutes, the player loses the game.
4. The player can click on "START" / "PEGGY" button to retry from the intro screen.

5.5 – EXTRA GUIDE



1. Green Flag - Pressing green flag starts or restarts the game.
2. Pause / Resume Button – Pressing it pause or resumes the game.
3. Stop Button – Pressing it stops the whole game entirely.

6.0 CONCLUSION

6.1 – APPLICATION CAPABILITIES

1. Able to repeat certain scenarios so that the player can reactivate the same scenario when he or she misses it and wants to replay the scenario.
2. The player is able to skip some parts if they already knew the solution to those parts which saves time.
3. Encourages the player to concentrate during the game as there is a 5-minute timer.
4. The player is able to mute and unmute the sounds in the game if they wanted to.

6.2 - LIMITATIONS

1. Could not record what the player had inputted, so the player has to reenter his or her input to reactivate the same scenario.
2. Player's time taken to finish the game would not be recorded and will be reset to the original time (5 minutes) when the player restarts the game. However, a ranking system can be implemented in the game in the future.
3. The gameplay has only one room, which makes the game easier and less interesting as well as not that fun, so another scene or room could be placed in the game in the future.
4. The player cannot skip the dialogues or control the speed of the dialogues.

7.0 REFERENCES

1. Fandom. (2020) Riddle School. [Online] Available from:
https://riddleschool.fandom.com/wiki/Riddle_School [Accessed: 20 November 2020].
2. Scratch Studio. (2014) Top 100 Scratch Projects! [Online] Available from:
<https://scratch.mit.edu/studios/245640/> [Accessed: 20 November 2020].
3. Y8 Games. (2020) Free Online Games at Y8.com. [Online] Available from:
<https://www.y8.com/> [Accessed: 20 November 2020].
4. Vizzed. (2018) Pokemon Emerald Plus Plus Hack (GBA) Game - Game Boy Advance Pokemon Emerald Plus. [Online] Available from:
<https://www.vizzed.com/videogames/game.php?id=69516> [Accessed: 20 November 2020].
5. Crossy Road. (2020) Crossy Road – Endless Arcade Hopper Game. [Online] Available from: <https://www.crossyroad.com/> [Accessed: 20 November 2020].
6. Army Of Trolls. (2004) BBC - Flash Interactive Website Artwork. [Online] Available from: http://www.armyoftrolls.co.uk/new_website/aot_website/html/bbc_1.htm [Accessed: 20 November 2020].
7. Matter. (2016) Designing a Pixel Art Character in 10KB. [Online] Available from:
<https://www.mttr.io/blog/web-development/designing-pixel-art-character-10kb/> [Accessed: 20 November 2020].
8. Font Meme. (2020) Pixel Fonts. [Online] Available from: <https://fontmeme.com/pixel-fonts/> [Accessed: 20 November 2020].
9. Fandom. (2020) Key of the Deep. [Online] Available from:
https://pixelworlds.fandom.com/wiki/Key_of_the_Deep [Accessed: 20 November 2020].
10. Pixel Art Maker. (2020) Blank Button Pixel Art. [Online] Available from:

<http://pixelartmaker.com/offshoot/1544ad2fb59dcef> [Accessed: 20 November 2020].

11. Khaled. (2020) Pixel Art Environments and Whatnot. [Online] Available from: <https://twitter.com/kldpxl/status/1291695667652505601> [Accessed: 20 November 2020].
12. Cevan. (2020) Animal Crossing: New Horizons Soundtrack - Welcome Horizons (Full Version). [Online] Available from: https://www.youtube.com/watch?v=2GhhV_WGsa0 [Accessed: 20 November 2020].
13. Pandemic Gamer. (2020) Losing Sound Effect. [Online] Available from: <https://www.youtube.com/watch?v=fy3LlrVwdHk> [Accessed: 20 November 2020].
14. Miguel. (2016) Telephone Ringing Sound Effect. [Online] Available from: <https://www.youtube.com/watch?v=zbKyroMItl8> [Accessed: 20 November 2020].
15. Sound Effect. (2009) Audience Clapping - Sound Effect. [Online] Available from: https://www.youtube.com/watch?v=Gyu82WG_edM [Accessed: 20 November 2020].
16. FesliyanStudios Background Music. (2013) Free Dream Sound Effects - Harp & Piano High Quality HD HQ. [Online] Available from: <https://www.youtube.com/watch?v=JEuFMOyr6JQ> [Accessed: 20 November 2020].
17. Mp3Juices. (2020) Mp3Juices – Free MP3 Downloads. [Online] Available from: <https://www.mp3juices.cc/> [Accessed: 20 November 2020].
18. Clideo. (2020) Audio Cutter Online. [Online] Available from: <https://clideo.com/cut-audio> [Accessed: 20 November 2020].
19. Canva. (2020) Home – Canva. [Online] Available from: <https://www.canva.com/> [Accessed: 20 November 2020].
20. Diagrams.net (2020) EDITED BYOB.png [Online] Available from: <https://drive.google.com/file/d/1L9X->

[LkcMtA79m7bmgB_17Mm9UUnj6pbz/view?usp=sharing](https://lms2.apiit.edu.my/mod/folder/view.php?id=3208) [Accessed: 27 November 2020].

21. Lai, E.L. (2020) Burger Rush Documentation. [Online] Available from: <https://lms2.apiit.edu.my/mod/folder/view.php?id=3208> [Accessed: 27 November 2020].

22. Quimson, N.M. (2020) Field Trip to the Zoo Documentation. [Online] Available from: <https://lms2.apiit.edu.my/mod/folder/view.php?id=3208> [Accessed: 27 November 2020].