

# **Written Report**

## **History Detectives**

### **Group Leader:**

- Zhu Li (1A2) (Programmer)

### **Group Members:**

- Wong Qi Yang (1A2) (Slides/presentation)
- Ng Boon Kong (1A2) (designer and programmer)
- Tan Sheng Jie (1A2) (written report)

## **1. Introduction to project:**

History may seem boring to many students when you are just memorising facts and events. However, this may not be so if students learn History in a different way like playing a game to reduce the stress of learning History for students. To make History interesting, we have made an engaging and fun game to students that would look appealing when played.

**Target Audience:** Secondary One students in Hwa Chong Institution

**Rationale:** We hope that students will learn more about history and in the end like the subject as we allow them to play yet learn at the same time allowing them to release their stress too.

## **2. Literature Review**

1. A research done in 2008 carried out an experiment on 65 undergraduate students majoring in education in Indiana University of Pennsylvania. They were split randomly into two groups (control group and treatment group) to learn computer architecture in which they had little knowledge on prior to taking quizzes on the topic. The control group read about computer architecture before taking the quiz while the treatment group read about computer architecture, then played a game on computer architecture before taking the quiz. It was found that the control group's average tests scores was 76.8 while the treatment group's average tests scores was 83.5 which was significantly higher than the control group which did not play any games before taking the test. The number of "A" grades (90% or higher) in the control group was a little over 7% whereas  $\frac{1}{3}$  of the students in the treatment group scored an "A" grade for the test. Thus, this also shows that students in the treatment group scored higher grades than students in the control group. Thus, it can be seen from the research done by Almeida and Sicart that with games involved in the learning process of students, significant increases in factual knowledge occurs.
2. In a study conducted by researchers at Vanderbilt University and partners at Legends of Learning, educators integrated a standards-aligned set of 55 typical educational games into their curricula. Each teacher taught at least one class with the games and one class without games. The research/study found out that students in the classes with the games outperformed their peers on essay writing and multiple-choice questions. In fact, students who played the games wrote lengthier responses to open-ended questions, thus showing that they displayed greater confidence in the subject matter after playing the games. Those students also achieved more than a whole standard deviation difference. In fact, the students who played the games improved their test scores by over one half of a letter grade. Besides the good grades of the students who played games, the study

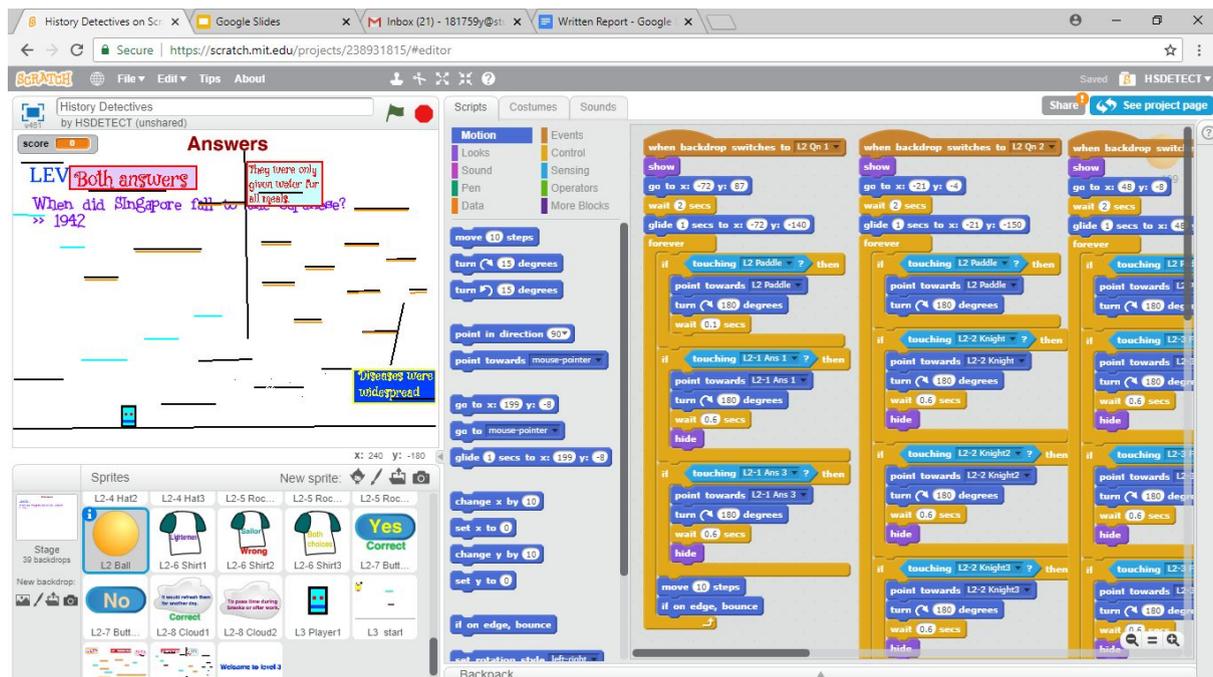
has also found that students who played the games not only experienced large outcome gains but also contributed more to in-classroom discussions, informal conversations with peers, and collaborative exercises. It was also found that those students had much improved attention spans than before. Teachers said that students who were normally off-task became more focused in their learning.

### **3. Method:**

We used mainly Scratch to make our game so that there would be sound effects and the background can be used widely from both internet and Scratch. With reference from some projects in Scratch, we would create different kind of games for students to play while answering questions.

### **4. Outcome / Analysis and Discussion**

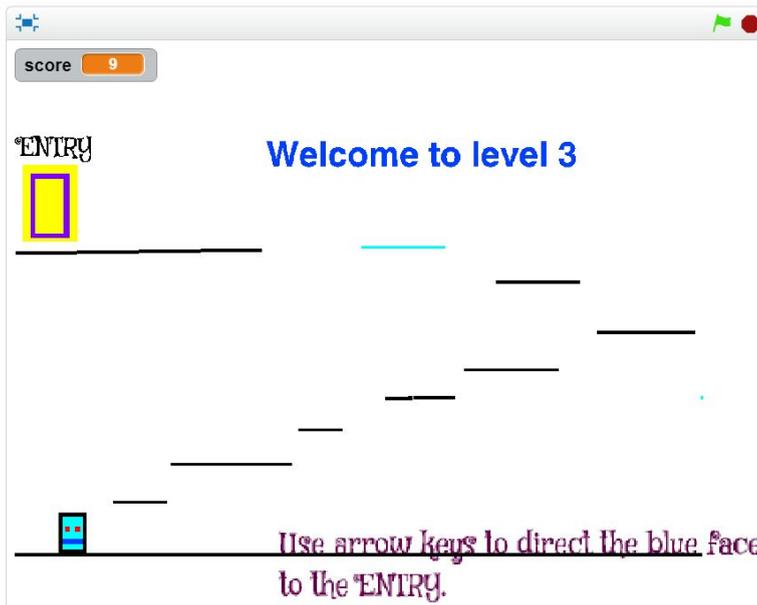
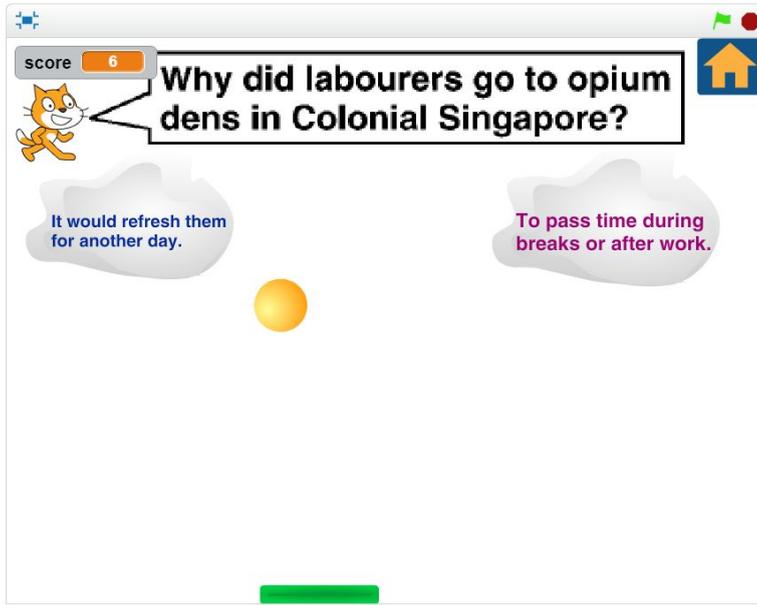
Overall, the game was improved once we added more history questions of different difficulty. Through some comments by students who tested out our game, we realised that it was actually quite fun for them however, it was a too difficult, in fact virtually impossible to complete the game due to factors like manipulation and the obstacle. Thus we found ways like increasing freedom of manipulation and reducing the size of the obstacle to reduce the level of difficulty, making it much easier for them to play it.

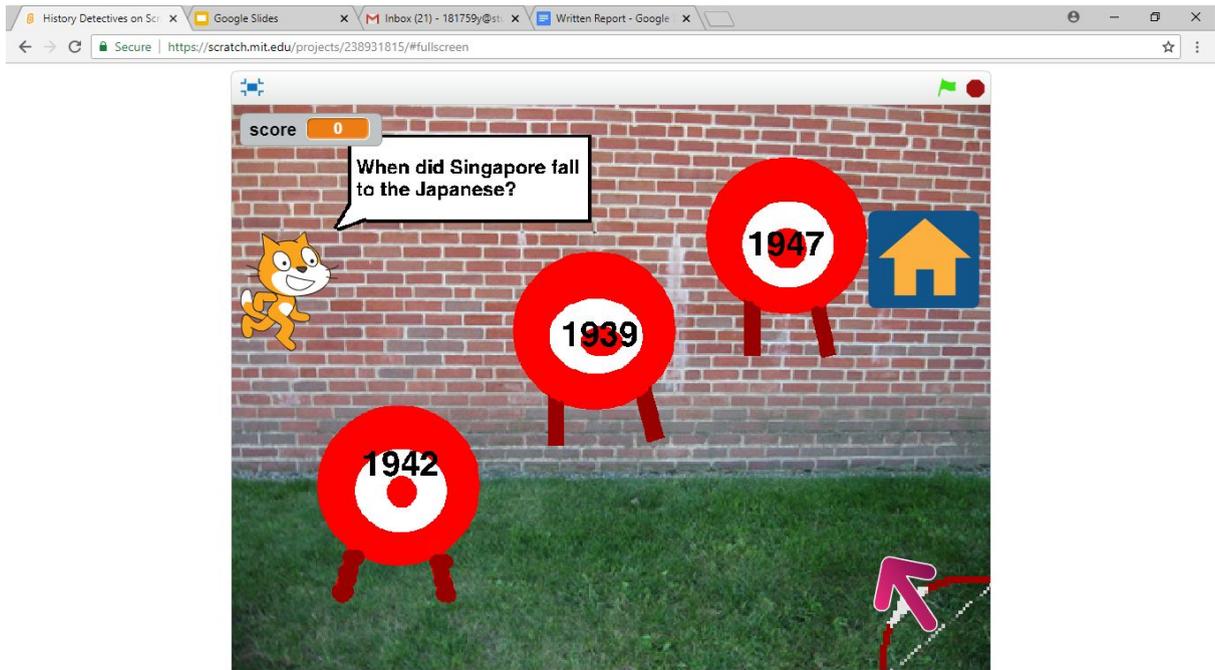


The screenshot shows the Scratch editor for a project titled "History Detectives" by HSDTECT. The stage displays a quiz interface with a score of 0. The text "Answers" is visible, along with a question: "When did Singapore fall to Japanese rule?" and the answer "1942". A red box highlights "Both answers" and another red box highlights "They were only given water for all the day". A yellow box highlights "Diseases were widespread". The code blocks are organized into several categories: Motion, Looks, Sound, Pen, Data, Events, Control, Sensing, Operators, and More Blocks. The code includes blocks for turning, pointing, going to coordinates, gliding, and switching backdrops. It also features a "repeat until" loop and an "if" block for checking if the user is touching a ball.

The screenshot shows the Scratch editor for the same project, but with a different quiz interface. The stage displays a question: "When did Singapore fall to Japanese rule?" and the answer "1942". A red box highlights "Both answers" and another red box highlights "They were only given water for all the day". A yellow box highlights "Diseases were widespread". The code blocks are organized into several categories: Motion, Looks, Sound, Pen, Data, Events, Control, Sensing, Operators, and More Blocks. The code includes blocks for turning, pointing, going to coordinates, gliding, and switching backdrops. It also features a "repeat until" loop and an "if" block for checking if the user is touching a ball.







### **Features:**

- Home Button to allow user to exit from the game.(Also resets the score everytime it user exits from game)
- Special history questions crafted by us
- Game scenario and question is based on the background picture.
- Use sound effects
- Gives a sense that the student is in the History
- Score recorder for student to know his score
- An orange sprite cat that gives questions
- Arrow and bow to choose the option
- Boat that bobs up and down
- A parkour game
- Better graphics than before
- (Images were better)

### **5. Implications and Recommendations**

We think that our idea would be quite effective as most students think that playing the game helps them to study and yet would not get them stressed or bored.

### **Area for Improvements:**

1. We only used the Secondary One Textbook in the game.
2. The questions covered may not be the whole Sec one syllables. So we will only cover the topics: Singapore before 1819 & WWII.

3. The questions cannot be changed to others. So we can create many questions such that they can choose which questions they want to answer. That way, they can play more than one time.
4. Once completed, students would not be able to play it again as the questions would be same.
5. It can only be played on Scratch.

**Possible Extensions:**

1. We can create an app which has all the games
2. We can also use a bigger platform so that more people can find and play the game

## **6. Conclusion:**

We have learnt a lot throughout the process. We faced many problems such as difficulties working with one another and problems programming. We have learned to work together as a team despite facing difficulties. We have learned to do more types of programming in Scratch when we were exploring what games to make.

Also, we learnt to think together and find the best idea among ourselves so as not to quarrel over matters. For preservation, we are busy and thus do not have much time to do project. However, we would cherish the small amount of time we have together to get together to do projects, allowing us to do our projects efficiently and preparing us for the future where teamwork is important due to the many project works carried out.

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