

# **MEDICAL MAGISTER**

## ***Group members:***

***Leader: Jeremy Hew Khai Hsien (1P1) - pixel art, in charge of  
written report***

***Davian Chan Jing Kai (101) - programmer, collaborator***

***Tan Zhao Ray (101) - pixel art, researcher***

***Ryan Lim Jia Jun (1I2) - programmer, pixel art***

Our project, Category 9

# **Introduction**

Our group has decided to make use of the programming language, **Scratch** to design an **educational game** made for children. We have taken special notice to use easy instructions so that our target audience can understand and memorise those instructions. This is because the attention span of children is shorter than that of adults, so we have to **ensure that** the children will be **attentive** throughout the whole course of the game and understand them.

## **Idea**

For our project, Medical Magister, we will be using Scratch to programme a **game** to teach people how to provide **medical help** to **someone who is in need of medical attention**, what they should do during a **wide range of medical emergencies from simple cuts to a heart attack** and **the importance of life-saving skills**. The **purpose** of our project is to **equip the players** of our game **with medical knowledge**, namely **what they should do in the event of a medical emergency**, in a simple yet **fun and interactive game**. For example, do you know what to do when someone collapses in front of you? If you do not, then our game can provide you with precisely what course of actions to take in such an event to save the person based on our research. **Many people may not know what to do to save someone in a time-critical situation, and in most cases, emergency response vehicles do not have a lot of time to save someone in a medical emergency. Thus, Our project aims to educate the audience on how to react in a medical emergency.**

## **Game format**

Why Scratch? It is the only game programming language we are familiar and confident with when we registered for the project and we are also confident that we will create an attractive game that will also be short and interactive to cater to younger children who have shorter attention spans. This is how the gameplay

works. When the player starts the game, he or she will find themselves in an “open-world” environment where they will face with some medical emergency. The situation can range from a small cut to a cardiac arrest. Then, the player will have to venture around the map, collecting the appropriate medical equipments to help the patient. The player will then have to decide which medical equipment to use help the patient. There will be “levels”, as the game will be progressive mode. Starting from easier tasks, the levels progressively gets harder as the player progresses. If the player successfully gathers the equipment and saves the patient, he progresses to the next level. If he does not, it’s **Game Over**.

## **Graphics**

The characters in the game are made from **Scratch through Pixel Art**, so are the items and the background. Pixel art is a simple yet beautiful art style that is easier to create compared to 3D models.

## **Methodology**

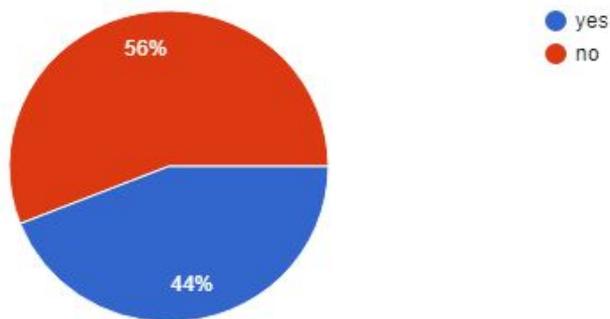
We have **conducted surveys to find out firstly**, how much medical knowledge do children have. Secondly, **do they know how to react in a medical emergency**. Thirdly, **how interested are they to learn medical skills**. Lastly, **how interested are they to learn medical knowledge from our game**.

# Survey

Our group conducted a survey to find out how many people know about life-saving skills.

Do u know life savings skills? ( like what to do in a cardiac arrest.)

25 responses



This test shows that the 56% of the people do not know about life-saving skills and this is an alarming number. It is expected that the elderlies would make up half of Singapore's population by 2050. With the number of elderlies becoming so high, the chances of them having a medical emergency would be higher and thus, there would be a need for more people knowing medical emergency life-saving skills.

## If so what life saving skills do you know

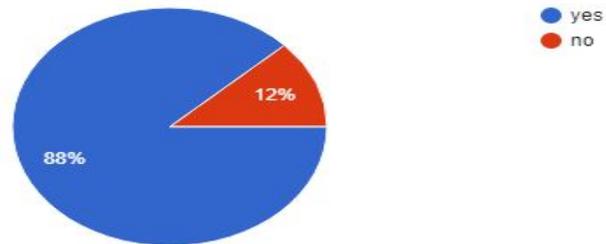
11 responses

CPR (5)
CPR(legit ik how to do but no official first aid card thing), stopping blood from coming out of wound
CPR
How to save u
Idk
CPR, how to use the AED
CPR-AED

From this graph, we can also tell that **most people** only **know** how to do **CPR**, with a **few people knowing** how to use an **AED**. **These people may also not know when to use these life-saving skills.** Thus, **our game** aims to **educate** these **people** about **more life-saving and when to use them.**

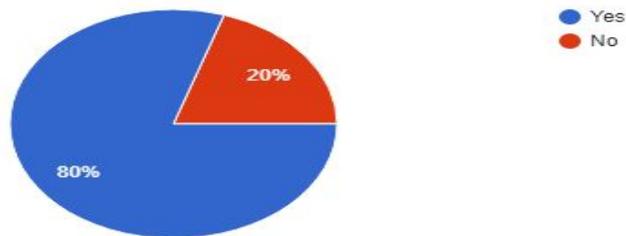
Would you play a game that teaches you life saving skills?

25 responses



Are you interested to learn (more) lifesaving skills?

25 responses



These graphs show that most people are interested to learn life-saving skills and would be willing to play a game to teach them about life-saving skills. This is a large percentage of people and this would most probably back up the fact that our game is important.

## **Areas for improvements or further extensions:**

### **Conclusion (Personal reflection):**

Davian : Through my experience doing project work my first time here in Hwa Chong, I can understand that project work may not be as fun and exciting as I thought it would be. I can now understand that project work is usually fraught with difficulties, and arguments between friends. The most challenging thing I feel would make a great impact is the argument between friends. Due to project work, friendships between project group members may be affected. Thus, we must learn to be understanding towards our project group members when they seem like they are not contributing to the project work. Another important value I had learn is the importance of teamwork. Without teamwork anything would not be possible as a project work is not a project work without the project group members. Thus, all members of the project group should learn to work amicably with the other group members and finish the project work as a team.

Jeremy: Through this project work, I have realised that the importance of teamwork between my group members is essential to complete the work on schedule, and that it is important for every member to contribute in his own way. I am sure that the leadership skills that I have picked up from working with my group on the project will also help me in the future. There have been times whereby my group members and I did not agree on something and argued over their own opinion on what they felt was ideal. However, all of us realised that we all had the common goal of making our project a success and this allowed us to accept each other's differences and work with each others' strengths so that we can make our project meaningful.

Ryan: This project has made me appreciate game developers a lot more. Even though we were using scratch, one of the simplest programming language, it was still really hard to complete the project. Each of the levels (in our case items collected and encounters) needs a lot more coding and sometimes the coding will glitch. Another challenge was creating a new sprite for every item, background and sprite from scratch. The process of making pixel art every time was very time consuming and strenuous. However, I still enjoyed making this game with my friends as we work together and solve all the challenges that face us. this has also helped me get familiar with scratch as a programming language. All in all, I enjoyed this experience and look forward to doing it again next year.

Zhao Ray: Through this project work, This project teaches me the skills of programming and the art of interaction between my project workmates. Arguments and conflicts are inevitable. However, only through this, we can come up with the fun and attractive game through Scratch. Also, although we have conflicts, we took our responsibility and eventually agreed to an idea. Time management is also important . Procrastination will certainly lead to no work done and failure. This project work most importantly taught me the value of teamwork and ownership and friendship is rather important. I totally agree that “One for all, all for one”.

### References

Heart Attack or Sudden Cardiac Arrest: How Are They Different? (n.d.). Retrieved from <https://www.heart.org/en/health-topics/heart-attack/about-heart-attacks/heart-attack-or-sudden-cardiac-arrest-how-are-they-different>

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