

Hong Kong Student Science Project Competition 2023

Template of Extended Abstract (Invention)
(Word Limit: 1,600 words, Pages: 3 pages only)

Team Number: JAPE189

Project Title: Are(unbearable)

Project Type: Invention

To our best knowledge, there are/are not * similar works in the market; (if there are,) related product links are as below:

Are(unbearable)

The enhancement our project made / the difference with related products are:

We add extra features and designs like warnings when the child's emotion is not great.

**Please delete if not applicable. The competition values the originality of works. Students must do enough literature research to ensure that their works are unique and list relevant reference materials before starting research or invention.*

I. Background

- Provide background information as to learn about the audience for whom the project is addressing
- Provide highlights of **literature review** and/or related technologies or devices, with the support of pertinent and reliable references
- Provide an overview of work, create a point of view as to define the needs and insights of the audience and mention the **research or technology gap the project is trying to fill**

The app is mainly for teens

Emotion recognition is normally using AI but we are using coding.

We are trying to help teens who are stressed out and depressed so we could change their emotions before its too late.

II. Objectives

- State the **aim(s)** of project
Our aim of this project is to create an App to help parents monitor their children's emotions

III. Methodology

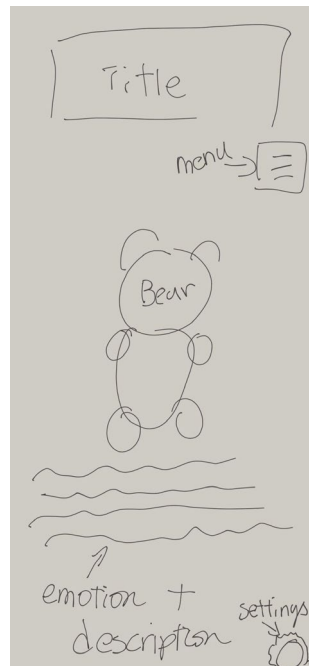
- Briefly describe the **approaches** used e.g. use of equipment, materials, tests and experiments
- Explain the selected implementation strategies with the **scientific theory**

We used XCode to build the app using swift language by going to classes and learning the way to code using the language.

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IV. Design of Invention

- Describe the **design** and the **principle** of invention (e.g. The ideation of the projects, the prototypes or creative solution as far as applicable)
- Provide sketches / drawings / photos of the invention



So our application is called unbearable, so we have a self-drawn teddy bear as our background so it will look pleasant. We will learn the language first, then start the coding. We got this idea because teenage students have a lot of stress nowadays and there are suicide cases because of this so we wanted to make an application to help teenage students. The reason why our group joined this competition is that we have a huge interest in science, secondly, we also think this is an extremely great opportunity to develop our presenting skills, coding skills, and our scientific knowledge.

V. Application / Market Need

- Explain the area of **application** and function of invention
- Indicate the market need and impact of invention
- Discuss **limitations** and compare with existing related works (if any)

The app we have developed has potential applications in the mental health and well-being industry. The function of the app is to help parents monitor and track the emotions of their teenagers in real time, providing them with insights into their child's emotional state. The app can also help teenagers track their own emotions and provide them with tools to manage their stress and depression. The market need for such an app can be high, as stress and depression are increasingly common among teenagers. According to the National Institute of Mental Health, an estimated 3.2 million adolescents aged 12 to 17 in the United States had at least one major depressive episode in 2019. The app can provide parents and teenagers with a convenient and efficient way to monitor their emotional state and identify potential issues. The impact of the invention can be significant, as it can help parents take proactive steps to address emotional issues before they escalate into more severe problems, and can help teenagers learn to manage their emotions in a healthy way. If we can develop the app on a larger scale, it could help solve problems like this in our own city, Hong Kong, too, as the academic stress and depression rates (almost half of all secondary students feel depressed) in Hong Kong are one of the highest in the world. One limitation of this app could be the accuracy of emotional tracking. Emotions can be complex and difficult to interpret, and the app may not always accurately capture a teenager's emotional state. Additionally, the app may rely on subjective interpretations of emotional data, which could lead to inconsistencies in the data collected. There are already some existing apps and tools that help teenagers and parents monitor and manage their emotions and mental health. These include apps like Headspace, Calm, and Moodfit. However, our app may offer unique features or a more targeted approach for teenagers, which could differentiate it from existing competitors in the market.

VI. If your team will compete the Sustainable Development Award, please indicate the specific sustainable development goal the project is related to, and provide justification for competing for this award. (Word limit: 300 words)

Our specific sustainable development goal of the subject is to help more teenage students in need, especially in their emotions. We hope our app can detect the students' emotions and warn the parents immediately if the children have any unusual feelings because there are more and more Hong Kong students committing suicide nowadays. Design and implementation of new solutions that imply conceptual, process, product, or organizational should hopefully change the current situation. Also, we wish that our application can be further developed even after the competition and become a more professional emotion recognition product. Of course, we desire our application to be promoted and known by teenagers (our target audiences) through the Sustainable Development Award, so our goal and original intention can be achieved.

VII. If your team will compete the Social Innovation Award, please list the target group or social issue the project focuses on, and provide justification for competing for this award. (Word limit: 300 words)

Same as V

VIII. Conclusion

- Make a **data-driven** conclusion of the project and the way forward of the invention process
- Justify if the proposed project meets the objective(s)

Our project is developed based on previous project and the enhancement is below: