

Cat 4 Resource Development

Group 4-075

Project Vitality

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ABSTRACT

Project Vitality is an integrated fitness package that aims to help Hwa Chongians adopt a healthier, happier lifestyle and to help them to stay fit. Our product will be a comprehensive package which focuses on 3 aspects of a healthy lifestyle, which include **Exercise, Injury Recovery** and **Diet**. Home exercise routines of **varying intensities** will be shown to cater to users of different levels of fitness, so as to be easily accessible to beginners yet providing some sort of challenge to the more advanced users. Our exercise routines are shown in the form of easily understandable videos complete with our own demonstrations, so as to provide additional support for users. The injury recovery aspect is also provided to users in the form of our videos, where we demonstrate simple rehabilitation exercise routines endorsed by a registered physiotherapist, Dr Phillippe Steiner, that can also be safely completed at home. Meanwhile, the diet aspect of our project consists of self-created infographics that provide details on the various types of popular diets and detail how they should be properly used in order to complement your exercise routines. Our resources will be housed in a comprehensive website, and an easily accessible smartphone app.

1.INTRODUCTION

1.1 Rationale

From a study from the National Institute of Education ([NIE](#)) involving 244 students, not a single one of these students met the national guideline of having at least an hour of moderate to vigorous physical activity a day. Blood tests were carried out on 229 of these participants, and close to 12% (~27 students) were at risk of metabolic syndrome which leads to increased blood pressure, sugar and cholesterol levels. This syndrome also increases the risk of heart disease, stroke and diabetes when adulthood is reached. This shows a clear link between a lack of physical exercise and long lasting health problems caused as a result. If the worrying trend of insufficient physical activity and physical aptitude amongst students observed from the NIE study and our Needs Analysis continues, the next generation of Singaporeans would suffer from a multitude

of ailments and health issues. To attempt to correct this trend, we embarked on our project to improve students' health and their fitness levels.

1.2 Objectives

Our purpose is to help Hwa Chong students aged between 13-18 years old achieve a healthier lifestyle by compiling a comprehensive resource package to aid them.

1.3 Target Audience

Our target audience includes Hwa Chong students aged 13-18.

1.4 Resources

Our package will include a website covering the different aspects of a healthy lifestyle, including workout routines, the recommended diet, and how to deal with injuries, various infographics which will summarise the information and help that we are providing and lastly, an app which allows users to choose select parts of their bodies that they want to work on and information about that part will be put on full display to facilitate more efficient recovery and rehabilitation in the case of injuries.

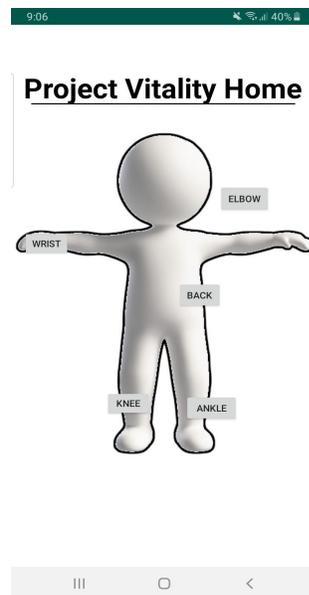
Example Infographic



Example Video



User Interface of the app



Home Page of Project Website

Welcome to Project Vitality's website! Here, you will be able to find tips on exercise and how to balance your workout, having a balanced diet for a healthy lifestyle and help on how to prevent, manage and recover from injuries.

Part 1: Exercise

We have recorded tutorials on various exercises that can be completed at home, separated into the beginner and advanced categories.

Part 2: Diet

We have created infographics that explain available diets and what type of exercises complement these diets. We hope that you will be able to choose a diet that suits your needs.

Part 3: Injuries

We have video tutorials on some simple exercises that facilitate rehabilitation. This can be paired with our app for improved effectiveness.

2. REVIEW

Some available resources may have chosen the wrong target audience. For example, some exercise-focused projects tried to teach athletes how to recover from injuries when most athletes already know how to manage their own injuries with advice from their seniors, or often physiotherapists directly. A project that did this was Project Recovery Tec done last year, where the focus of the project was on already trained athletes who knew very well about what the project was trying to convey.

3. METHODOLOGY

3.1 Needs Analysis

In order to determine the relevance of such a project and assess the demand for our product among the student body, we conducted a needs analysis to assess the needs of the general student population in Hwa Chong. Firstly, a questionnaire was constructed to understand the student's stance on our project and their various fitness

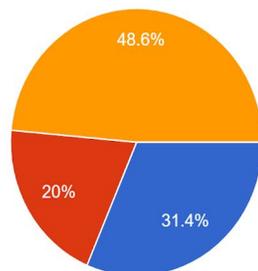
levels. All 70 participants who participated responded positively to our project. These results affirmed the feasibility and clear need for our project among Hwa Chongians.

3.2 Survey Results

Needs analysis:

How often do you engage in physical activities? (Not including PE)

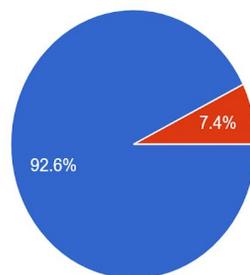
70 responses



- I do not exercise / I exercise occasionally (0-60 min of moderate aerobic exercise per week)
- I do physical activities occasionally when I have the time (75+ min of moderate aerobic exercises per week)
- I make it a point to do physical activities regularly (150+ min of moderate aerobic exercises per week)

Would you use this resource package?

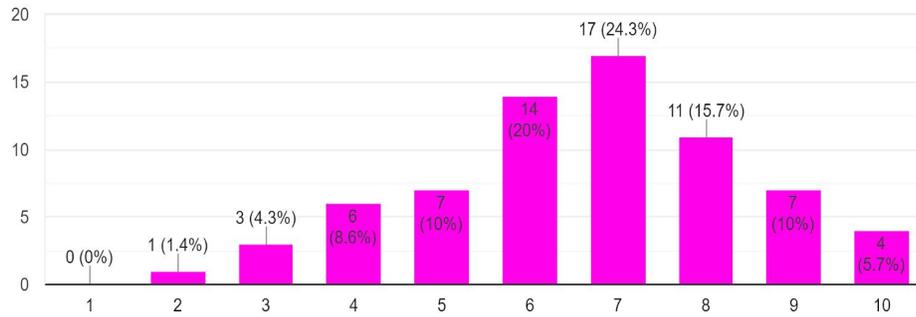
68 responses



- Yes
- No

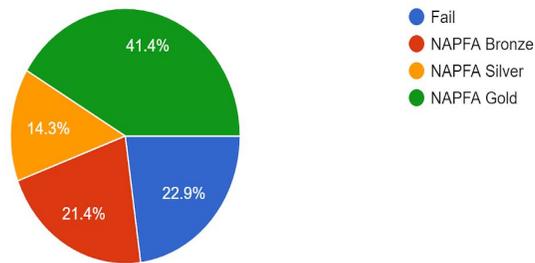
On a scale of 1-10, what do you think your fitness level is?

70 responses



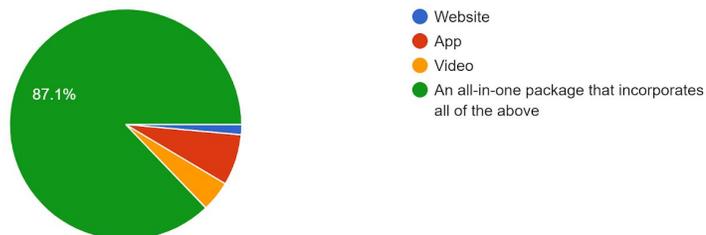
How well did you perform in the NAPFA test?

70 responses



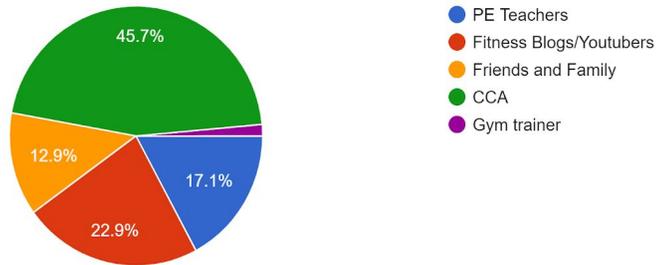
What type of resource package would you prefer?

70 responses



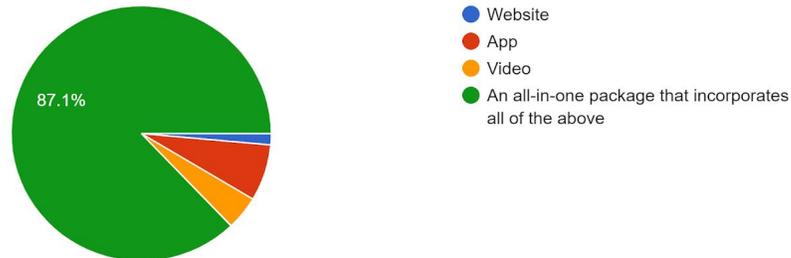
Where do you usually get your fitness information from?

70 responses



What type of resource package would you prefer?

70 responses



3.3 Development of Resources

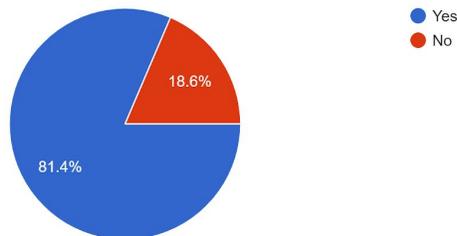
We compiled a list of exercises of varying intensities that could cater to users of different levels of fitness, in addition to some simple rehabilitation exercises for common injuries sustained after vigorous exercise. These videos were reviewed by the physiotherapist we were working with, Dr Phillippe Steiner, to ensure our exercise routines and rehabilitation exercises were safe and effective. Afterwards, we filmed the exercise routines and recovery exercises ourselves, then compiled them into a resource in the form of a subtitled video. We then used 3 examples of healthy diets that were recommended by the physiotherapist and created infographics for each diet that described their benefits and disadvantages for the users to follow, as well as recommending what types of exercise our users should do to complement their

respective diets. We also created a website where all our resources were collated and separated into 3 tabs for ease of use. To create our app component, we then conducted research on how to code apps, and our group proceeded to build an app from scratch. Our app houses all of our injury recovery videos alongside an interactive user interface where users can select a particular area of their body from a model and recovery videos focusing on that particular body part will be displayed for their convenient viewing.

3.4 Pilot Test

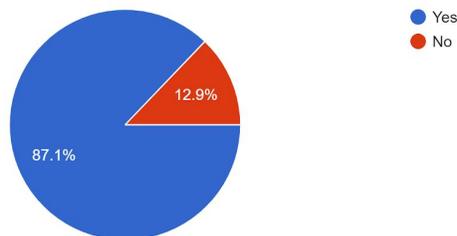
After looking at the websites and its content, would you use the resources that we have created?

70 responses



Do you think our website would be useful for people who want to improve their fitness?

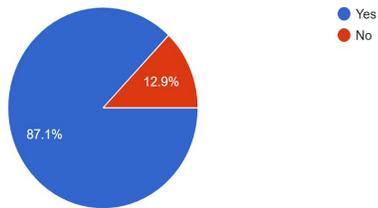
70 responses



In our pilot test, we asked our testers whether our product would be able to achieve our project's goal, which is to aid students in their journey to achieve fitness, and a majority of our testers (81%) were satisfied enough that they would be willing to use our products themselves and 87% agreed that our product would be of great use to those with the goal becoming fit in mind.

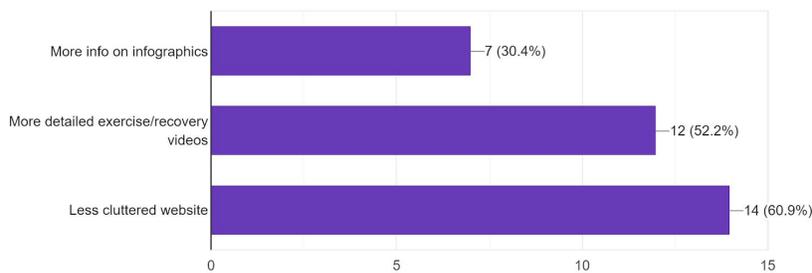
Are our exercise/recovery videos easily understandable?

70 responses



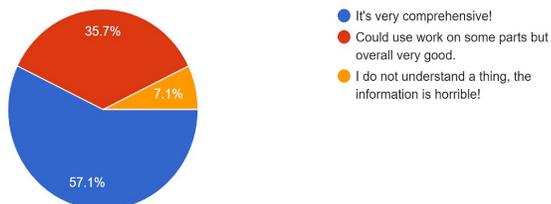
If your previous response was "no", what would you like to see added?

23 responses



What do you think about the information in our website?

70 responses



As the results show, our demonstration videos could be understood and followed by our audience and our website's formatting and information thorough. Despite this, we acknowledged that there were still some flaws in our package components and we worked towards fixing them. We shortened the explanation on the diets and used simpler words to make them easier to understand.

4. OUTCOME AND DISCUSSION

The project received a warm response, with over 87% of respondents stating that they wanted an integrated package consisting of both an app and a website. This validated our project as at first, we were having doubts about including all the features in the app. We also concluded that most students placed themselves at a higher fitness level than they were usually at, as shown by the difference in the individual ratings of their fitness level as compared to their NAPFA results.

5. CONCLUSION

All in all, Project Vitality has been an incredibly fulfilling journey. Though there were many challenges, such as the significant amounts of work and research needed to code the app from scratch, the time needed to create and edit the videos, and the effort needed to design our infographics, we persevered through, and gained valuable insights and grew as a group. Despite the ever-looming threat that Covid-19 posed and the social distancing measures that resulted in us being not able to meet up physically as we would have liked, we managed to complete our ideal project within the time limit. In the course of this project, we've taken away a few things. To name one, we've learnt that teamwork indeed makes the dream work. It would be an understatement to say that the success of our project hinged on our ability to work as a team. Through excellent communication, regular teamwide updates and frequent voice calls to coordinate and consolidate our progress, we were able to provide quick responses to our teammates' problems and resolve any disputes. Therefore, we were able to complete the project to the best of our abilities, and on schedule to boot.

6. REFERENCES

Davie, S. (2016, January 19). Health risk for Singapore teens - they are not active enough: Study. Retrieved from <https://www.straitstimes.com/singapore/health-risk-for-singapore-teens-they-are-not-active-enough-study>