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Class: DCITP/FT/1A/01

CA1 Team No.: 2

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DISAPP

An application connecting people with disabilities with society.

**A proposal for
The Singapore Polytechnic Selection Panel
For
The Young Change Makers Grant**

**By
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Executive Summary

Within recent years, the number of people with disabilities joining mainstream schools in Singapore has increased. The government has taken this into consideration and as such, has come up with some plans for improvements to the current mainstream schools. Funds have been provided to schools and learning has become easier for those with disabilities.

However, in today's society, students with disabilities feel excluded from their peers. Although some actions have been taken by the government to improve the situation, those solutions can only temporarily alleviate the issue and not solve it.

DisApp aims to make people with disabilities to be more inclusive in the school environment. By having this befriender App which has a questionnaire which will better ease social interactions through completing questionnaire & school events which are suited for disabled people but also a convenient way to get around Nanyang Polytechnic.

DisApp is to be circulated to staff and students of Nanyang Polytechnic through means of an advertisement video, a dedicated International Friendship Day event, and workshops.

Nanyang Polytechnic was chosen because it had the highest enrollment of students out of all Polytechnics in 2019.

The project is scheduled to complete in 4 months, starting from April, with the application's development taking the first half. Designing and printing the marketing materials will take the whole of June, and lastly, the outreach and release of application on International Friendship Day alongside the event in July.

Considering the impact that the application can make on people with disabilities, the project's cost of approximately \$2700 will be an excellent investment that brings small steps towards social inclusivity for the physically disabled through technology.

The team, therefore, requests the support of the Singapore Polytechnic Selection Panel for the proposal's submission to the National Youth Council for the Young Change Makers Grant

1. INTRODUCTION

1.1 Proposal Objective

The team seeks to obtain funding from the National Youth Council's Young Change Makers(YCM) Grant to execute a project that encourages more interaction between able-bodied young adults and those with physical disabilities in learning institutions.

1.2 Background Information

In the past decade, the Singapore government has stepped up in it's plan to "build an inclusive society"(MSF, 2021),especially so for the disabled. With the increase of disabled students in mainstream schools, some issues have become more apparent in today's society. As such, under the Enabling Masterplans, the government has been implementing some changes to provide a more conducive learning environment for the students with disabilities.

1.2.1 Increased Enrolment of Students with Disabilities in Mainstream Schools

Since the last decade, there has been an increase in enrolment of students with disabilities(refer to Figure 1).The Ministry of Education(MOE) has thus increased the capacity for the intake of students with disabilities in mainstream schools(MSF, 2021).

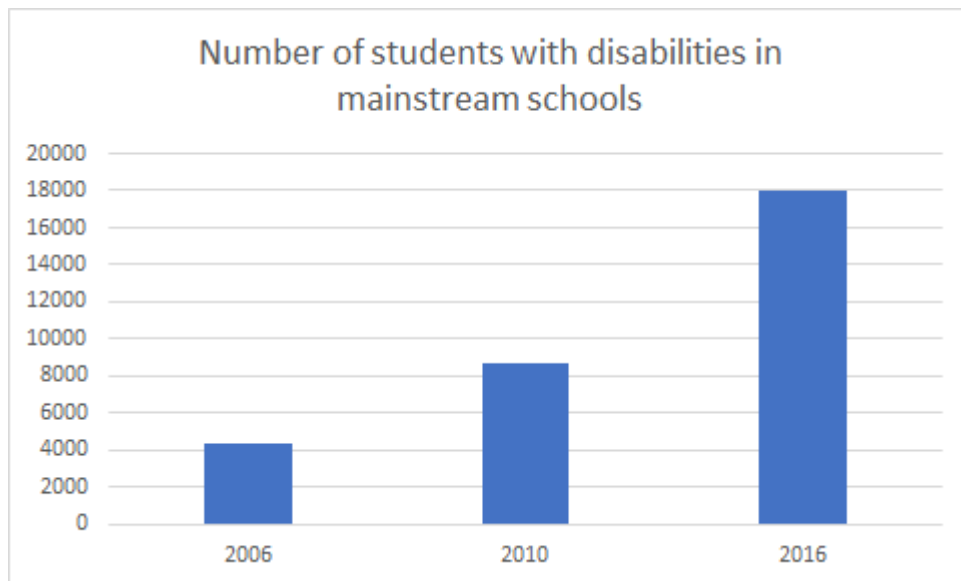


Figure 1: Increase in enrolment(Tai & Chia,2012)(MOE,2016)

1.2.2 Issue Of Disconnect Between These Students And Mainstream Students

Research has shown that the major reason for the gap between mainstream students and special needs students is that there is a “lack of conducive opportunities” for the two groups of students to interact. This in turn causes the disabled students to not have many able-bodied friends and feel excluded.(LF, 2016)

1.3 Evaluation Of Current Measures

Currently, the MOE has provided assistance in the Information Technology and financial aspect to allow for better learning in schools(MSF, 2021), as well as organising camps for students with disabilities to interact with abled students(Khew, 2016). While the camp experiences and other assistance from MOE are effective, not much is done about their day-to-day integration and interaction with their peers.

1.3.1 Our Inspiration

Although some measures have been implemented, these measures are not very effective or plausible in the current state of society as we are facing a

pandemic. This has led to our team to think up of another measure to tackle this issue, which is an app designed specifically for people with and without disabilities to interact. The inspiration for this idea is an app called Making Authentic Friends(MAF) which was invented for the sake of helping people with difficulties in interacting with other people by providing a platform for them to do so while staying in the comforts of their homes. Thus, we have come up with an application catered especially for disabled people.

2. PROPOSED SOLUTION

2.1 Overview

In order to integrate people with disabilities into society, we have proposed a solution that creates an app called “DisApp”. This app seeks to first introduce and allow a disabled individual to have a taste of interacting with another. The reason why we choose to create an app is because apps and mobile devices are more accessible for the disabled people(BYRNE, 2019). By utilising this app which is designed specifically for the Disabled people, it can act as a form of introductory method for the individual to step out of their comfort zone, at their own time and pace, thus enabling them to feel more comfortable when interacting with other people.

2.2 FEATURES OF THE APPLICATION

2.2.1 The Social Features

2.2.1.1 Questionnaire



Figure 2: Questionnaire Page

The disabled people may find it hard to use social media due to the complicated registration process (Medium, 2016). While "DisApp" uses simple buttons and icons as visual aids (refer to figure 2), making learning how to use the app easy and quick. With this simple interface, these disabled people would have more appeal towards our app, instead of the conventional social media platforms that may prove to be a challenge for some of these disabled people (Shpigelman, 2014) while for "DisApp", users, they will be asked simple questions about their interest or favourite food by simply reply with a "Yes" or a "No". This questionnaire will help the users to build their personal profile.

2.2.1.2 Customize Profile

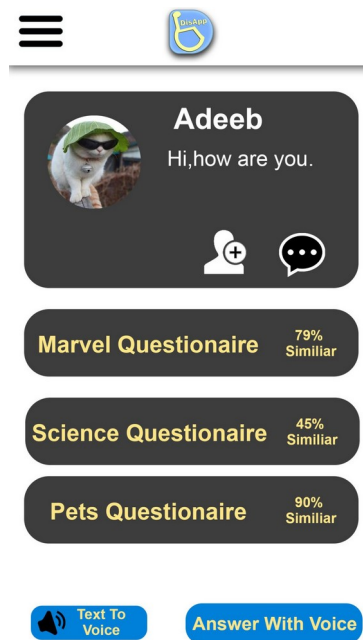


Figure 3: Profile Page

The profile page In “DisApp” also has the basic functions in other common social platforms. For example, users will be able to change their profile picture to anything they like or add a bio to describe themselves. However, it also has some difference with other social app, in the disabled people’s profile page, it will show which kind of disability this user has and the introduction of this disability while in the non-disabled people’s profile page, there will be a tutorial about how to communicate with the disabled people friendly in order to create a harmless communicate environment for the users. The profile page will also show the personal information collected by the questionnaire and the app will recommend other users that share the similar interest with the disabled people.

2.2.1.3 School Events



Figure 4: School Events Page

By having physical interactive activities, it is shown that it eventually leads to increased social integration, bonding and friendship(Physiopedia, 2021), therefore our app helps to schedule out the school events available for disabled people which have activities to promote interaction between the disabled individuals and the general public, allowing the individuals to practise their social skills with other people . Furthermore these events also have an additional purpose of tackling the negative social stigma casted on the Disabled community by the general public.

2.2.2 The Addon Features

2.2.2.1 Map (which show best route to travel)



Figure 5: Campus Map Page

The Map is designed to help disabled people who are wheelchair bound to navigate the campus with the best route calculated. This feature is more user friendly than SP Map App, it even shows where the lift and quickest route is located for them.

2.2.2.2 Read Out Words



Figure 6: Text to Voice button

There will be a button at the side which will voice the words in the app. This feature will help disabled who have difficulty reading to use the app better.

2.2.2.3 Voice Recognition



Figure 7: Answer with voice button

There will be a button at the side which will detect what the user is saying and input. This feature allows user who is more comfortable speaking and it will detect their voices

3. OUTREACH PROGRAM

3.1 Overview

There is a continued lack of understanding of the issues and concerns of people with disabilities (PWDs). More efforts are needed to raise awareness and overcome the lack of knowledge and understanding of disability. It is also important to recognize people with disabilities for their strengths rather than just their disabilities.

People frequently integrate PWDs into mainstream situations without taking into account their needs or preferences. Instead of merely integrating PWDs into public spaces, these environments must be made accessible, inclusive, and safe for them. Those who seek to engage PWDs in programmes or events should actively consult them in the planning stages, particularly if these services are meant to have direct influence on their lives

3.2 What You Need To Know

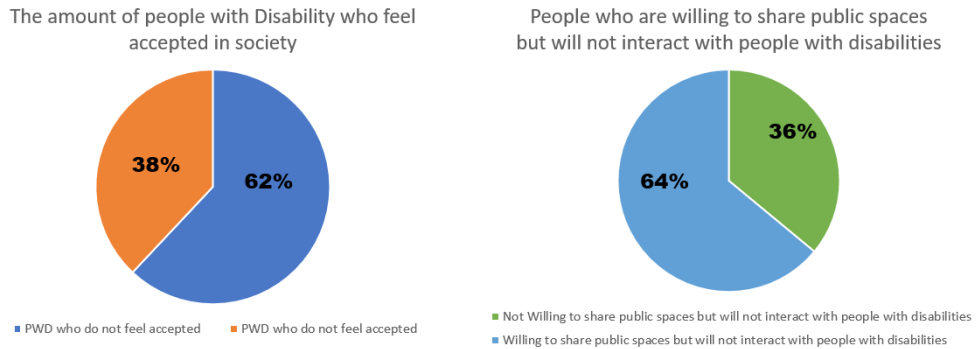


Figure 8: Amount of PWDs who feel accepted in society & People who are willing to share public spaces but not interact with the people with disabilities

Social inclusion assures that everyone, regardless of disability, can participate in all aspects of life to the best of their abilities and aspirations. Stigma is a lack of social inclusion that results in disability discrimination against PWD. In a survey conducted in Singapore, 62% of PWDs said they do not feel included, accepted, given opportunities to contribute or reach their full potential by society. Although the concept of an inclusive society appeals to the majority of Singaporeans, disability itself is frowned upon. 64% of the population is willing to share public spaces but will not interact with people with disabilities (refer to Figure 8).

3.2.1 Discrimination Towards PWDs Throughout Their Life

Because of their impairment, PWDs are treated unfairly and denied opportunities in mainstream society. Almost one in every two children with special needs does not have typically developing friends, as stated in issue #1 on 'Abuse and Bullying of PWDs'.

More than half of parents with special needs children said pre-schools were unwilling to accept their children in the Lien Foundation's Inclusive Attitudes Survey (2016).

3.2.2 Lack Of Employment Opportunities

The amount of employers would not hire PWDs

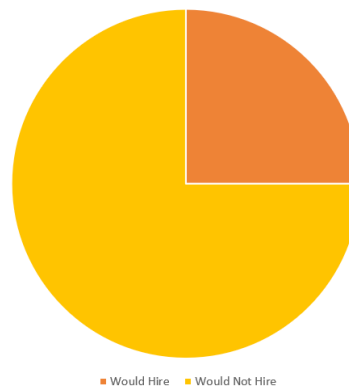


Figure 9: Amount of employers who would not hire PWDs

More than a third of the public surveyed reported that they would not hire PWDs if they were employers (refer to Figure 9). Aside from having difficulty in securing employment, many PWDs believe that people do not expect them to excel at their jobs because of their disability.

3.3 Methods Of Outreach

We have come up with two methods of outreach to promote our application.

3.4 Online Outreach

The best way to get an audience is through Outreaching Online as things on the internet can easily be shared.

3.4.1 Advertisement Video

We will develop an advertisement video on how the app works and raise awareness about the challenges that disabled people experience. Advertisement video would be a great platform to create and spread the message to the target audience.

The outcome is that non-disabled and disabled people will be able to connect better and comprehend one another more effectively.

3.5 Offline Outreach

Aside from using the internet to outreach, offline outreach is another way to introduce the staff and students of Nanyang Polytechnic to our mobile application.

3.5.1 International Friendship Day Event

On International Friendship Day on July 30th, A booth will be set up to promote the application. Trivia and games will be held with the purpose to make participants have fun while also educating them. Flyers will be distributed at the booth to students and staff to help promote the application.

We chose International Friendship Day because it is a day when we celebrate friendship. We use this occasion to promote our mobile application that allows forging friendships exclusively for people with disabilities.

3.5.2 Workshops

By organizing mini-workshops on the social aspects of being a person with physical disabilities, we can educate staff and students in Nanyang Polytechnic regarding people with physical disabilities and introduce how our application tries to tackle the problem faced by them.

4. IMPLEMENTATION PLAN

To fulfil the plan, the team has identified the project location and produced a timeline.

4.1 Project Location

The mobile application will be introduced to staff and students of Nanyang Polytechnic. We chose this school because Nanyang Polytechnic has the highest enrollment of students in 2019 out of all polytechnics (Data.gov.sg, 2020), as shown in Figure 10.

Enrolment by Polytechnic (2019)

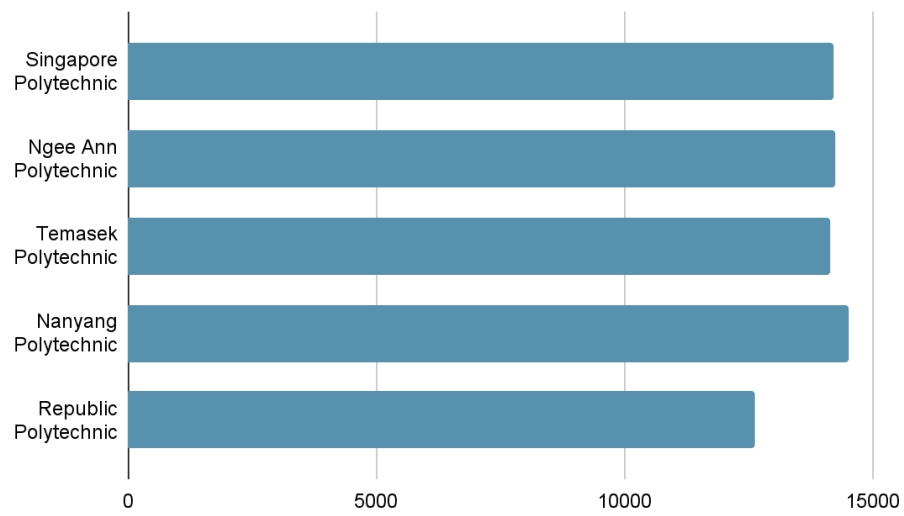


Figure 10: Amount of enrolments by polytechnics in Singapore in 2019

4.2 Project Schedule

The project is scheduled to be completed in 4 months. The team intends to develop the app as soon as the funding is received.

Nearing completion, we will start the testing phase of the application and make adjustments to the application. We plan to design and print the marketing materials in time for the application's release.

We will begin the outreach and release the application to students and staff of Nanyang Polytechnic by July 30th, International Friendship Day. The Gantt chart (Figure 11) shows the project schedule at a glance.

Tasks	April		May		June		July	
Development of Application								
Application testing stage								
Designing of marketing materials								
Printing of marketing materials								
Outreach								
Release of application								

Figure 11: Planned schedule for the project.

5. BUDGET

Based on quotations from potential printing shops (Appendix A), the total costs of the materials and services will be approximately \$2700, as shown in Table 1.

Table 1: Estimated Cost of the project

Items	Quantity	SGD / Unit	Total Price (SGD incl GST)
Printing of Brochures	5000	~ \$0.02615 / Piece	\$130.75
Printing of Rollup Posters	10	\$69.95 / Piece	\$695.50
Booth rental	3	\$100 / Day	\$300
Google Play Developer Account	1	\$30 / Account	\$30
Apple App Store Developer Account	1	\$142 / Year	\$142
Cloud Database Costs	12	~ \$81.20 / Month	\$974.40
Server Costs	12	~ \$29 / Month	\$348
Total	~ \$2620.65 for a year		

6. **BENEFITS OF COLLABORATION**

We are a team of Singapore Polytechnic students currently pursuing the Diploma in Common ICT Programme. Armed with skills and knowledge in Information Technology and supported by the ever-growing mobile application market, we are passionate youths who want to make a social change using the power of technology. The team hopes to make an impact in society by making Singaporeans more socially inclusive towards the disabled.

7. **CONCLUSION**

In times of pandemic, face-to-face interactions have become lesser and lesser, and our social skills wear out over time in captivity.

Our team is confident that this project will make our society more inclusive towards physically disabled people by introducing technology in communication.

The team, therefore, seeks Singapore Polytechnic's support for the application for the National Youth Council's Young Change Makers Grant.

RESPONSE

The Singapore Polytechnic Young Change Makers(YCM) Grant Selection Panel **finds/ does not find*** the proposal for “DisApp” innovative and of benefit to the Singapore community and society.

The submission of the proposal to the National Youth Council for YCM funding is therefore **supported/ not supported***.

Signature

Date

Mr. Luke Wong Chief
Judge
Singapore Polytechnic
Young Change Makers Grant
Selection Panel

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APPENDIX A: List of printing suppliers.

Supplier	Contact Information
VistaPrint	<p>Phone: 1800 407 5624</p> <p>Operating Hours: Mon–Fri: 6 AM – 8 PM.</p> <p>Online ordering: https://www.vistaprint.sg/</p>
IPrint Express Pte Ltd	<p>Address: 158 Kallang Way, #01-03, Singapore 349245</p> <p>Phone: +65 6258 9595 / +65 6258 9895 / +65 8809 9895</p> <p>Operating hours: Mon – Fri: 9:30 AM - 6:30 PM.</p> <p>E-mail: sales@iprint.sg</p> <p>Online ordering: http://www.iprint.sg/</p>
ExpressPrint	<p>Phone: +65 6100 8328</p> <p>Operating Hours: Mon–Thu: 9:30 AM – 6 PM. Fri: 9:30 AM – 5 PM</p> <p>E-mail: sales@expressprint.com.sg</p> <p>Online ordering: https://www.expressprint.com.sg/</p>

Proposal Title: Proposal on App for Physical Disability		
Class: DCITP/FT/1A/01		Team No.: 2
Lecturer: Mdm Chew Woan Tyng Wendy		
Names of Team Members	Student ID	Sections responsible for writing
Zheng Yao	P2102681	1.Introduction 1.1 Proposal Objective 1.2 Background Info 1.2.1 Increased enrolment of students with disabilities in mainstream schools 1.2.2 Issue of disconnect between these students and mainstream students. 1.3 Evaluation of current measures. 1.3.1 Our inspiration
Xizhe	P2111447	2. Overview of Proposal Solution 2.1 Overview 2.2 Features of the application 2.2.1 Social Feature 2.2.1.1 Questionnaire 2.2.1.2 Customize Profile 2.2.1.3 School Events
Adeeb	P2107095	2.2.2 Addon feature 2.2.2.1 Map 2.2.2.2 Voice Recognition 2.2.2.3 Voice to text 3. Outreach program 3.1 Overview 3.2 What you Need to know 3.2.1 Discrimination towards PWDs throughout their life 3.2.2 Lack of employment opportunities 3.3 Methods of Outreach 3.4 Online Outreach 3.4.1 Advertisement video

Nabil	P2007421	3.5 Offline Outreach 3.5.1 International Friendship Day event 3.5.2 Workshops 4. Implementation Plan 3.1 Project Location 3.2 Project Schedule 5 .Budget 6.Benefits of collaboration 7. Conclusion
Whole Team		<ul style="list-style-type: none"> ● Title Page ● Table of Contents ● List of Illustrations ● Executive Summary ● Response ● References