

## Android Mobile Application Development Mobile-based Socialify Application Development as a Community Discussion Forum Provider

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### ABSTRACT

The Independent Campus is a new breakthrough from the Ministry of Education and Culture (Kemendikbud) in 2023, this program allows students to be able to gain knowledge apart from being in college, there are many activities launched in this program, one of which is Internship and Independent Study (MSIB). In the MSIB activity which was carried out from February to June 2023, the author participated in the Independent Study activity at PT Kinema Systrans Multimedia whose activities were managed by the Sub Company, namely Infinite Learning, with the title of the activity namely Mobile and Development, the activity lasted for 5 months from February 2023 to June 2023, divided into two sessions, namely the morning session and the afternoon session. Activities carried out during the Independent Study are learning soft skills that are useful in the world of work, such as professional ethics and professional self-branding. In addition, there is also mastery of hard skills such as team project management, Android application development, After the Micro Challenge is finished, it will be followed by the second stage, namely the Macro Challenge. The arrangement of groups for this stage will be determined by the mentor based on his policies. Finally, there is the Massive is invaluable because I can learn about important things in the professional world.



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### INTRODUCTION

Infinite Learning, a division of PT Kinema Systrans multimedia (a subsidiary of Infinite Studios), is focused on developing vocational training courses relevant to Infinite Learning activities and the increasing demand for skilled talent within the Infinite Learning ecosystem. Expanding on its current internal training operations, Infinite Learning in 2018 has obtained, the LPK license from the Indonesian Ministry of Manpower. This allows them to conduct vocational training courses that are open to the public, which can be used in collaboration with local and international educational institutions. Currently, Vocational Education activities are carried out under the LPK license

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for training in Infinite Learning, in collaboration with the Apple Developer Academy, Royal Melbourne Institute of Technology Cyber Security Course, Ministry of Education Independent Study Program. The mission of Infinite Learning is to work together with all government agencies, national research agencies, educational / training institutions both at home and abroad to create curriculum standards, research and development collaboration, as well as innovation and funding. Recruit mentors, trainers and researchers who meet industry standards. Regularly train teachers, mentors, trainers and researchers to continue to meet the needs of future technological developments. Recruit candidates for training and education participants from all over Indonesia. Collaborate with all digital-based industries both in Indonesia and abroad to absorb Indonesian digital talent. The vision of the following companies is to become a leading solution provider in the technology, research and development, and innovation sectors through training and education to increase the number of creative and innovative digital talents who can be independent and at the same time acceptable to industry in Indonesia and the world.

In the implementation of the Independent Study, there are three projects that use the Problem Based Learning (PBL) learning method and Agile Scrum project management. The first project is called Micro Challenge, which is held for four weeks in the first month. Each team member has been appointed by a mentor, who provides guidance and direction throughout the process of working on this project. The second project is called the Macro Challenge, which is carried out after the Micro Challenge is finished, in the second month. It also took four weeks to complete, and this project has a slightly higher weight than the Micro Challenge. The selection of team members is adjusted by the mentor. The third project is called Massive Challenge, which is the final project of this Independent Study. This project lasted for approximately 13 weeks. The selection of team members is determined by each Independent Study participant (Mentee), and it is hoped that this Project can optimize all the knowledge that has been given to the participants. The end result of this project is an android application that is useful for many people.

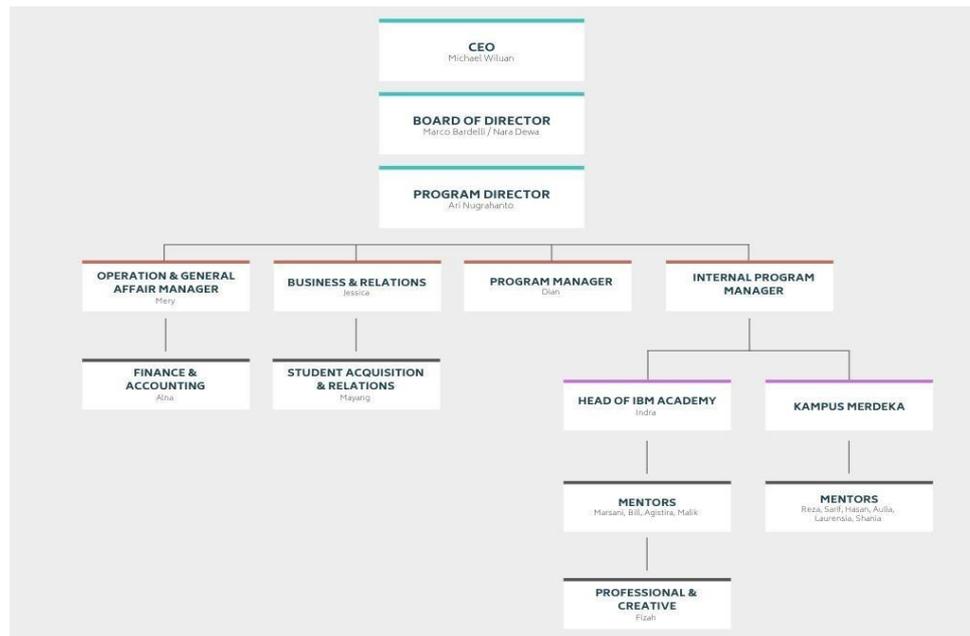
### **Scope of work**

In this project, we will explore the needs faced by the general public and provide solutions through the development of Android-based mobile applications. Each group will select a different area, such as lifestyle, education, health, etc., to identify relevant issues. Next, the group will describe the problems they face, divide tasks among group members, and plan project progress according to the deadlines set by our partners. In addition, we will design the appearance of the application using Android Studio and immediately implement it with the help of this software.

## **METHODS**

### **Organizational structure**

Infinite Learning's organizational structure consists of the three highest positions held by the following individuals. First, the most important position is held by Chief Executive Officer (CEO) named Mike Wiluan. The second position is filled by the Board Of Director, which is held by Marco Bardelli. His job is to oversee the operational and development aspects of Infinite Learning. The third position is occupied by Program Director Ari Nugrahanto, who is responsible for the Independent Study program at Infinite Learning. The organizational structure of Infinite Learning along with its positions and explanations can be seen in Figure 2.1 below.



**Figure 1.** Infinite learning Batam organizational structure  
Source: Infinite Learning Agency (2023)

### Scope of work

The foundation of our work is based on the Project Based Learning (PBL) problem-based learning method approach which is used to solve common problems faced by many people. In team management, we apply the Agile Scrum method where team members in each project can change according to their individual abilities. In the company, Infinite Learning Batam, focuses on the Information Technology (IT) field. In the program that the author chose, namely Mobile application development, we aim to help students learn the basic steps in creating mobile applications. This program is designed in a comprehensive manner so that it can be understood by students throughout Indonesia, both from IT and non-IT backgrounds. In designing this program,

1. In the Professional category, we offer subjects such as team management, communication, project management, basic financial concepts and basic principles of marketing.
2. The focus on the field of UI/UX Design includes elements such as user experience, user interface, and prototype development.
3. In developing mobile applications, our program covers basic Kotlin programming, basic Android programming, use of cloud-based databases, and basic concepts of cloud computing.
4. While working on the massive challenge project, the author got the role of a coder team, but in the process the author made an application design through figma and helped provide information for the coder team.
5. In massive projects, mobile application development is still at the development stage where the features contained in the application are not all interactive and only a few features can be explained.

In carrying out this program, we were provided with training in the form of materials and hands-on practice in making projects. The projects in this program have 3 (three) stages, namely the micro, macro, and massive stages. At each stage of our project, we are given different challenges with different teams. This shows that we mentors are used to adapting to

new environments quickly and can complete projects according to the provisions given by mentors and can complete projects on time too. Each team consists of 6 (six) students with different majors and campus backgrounds. In the following, the author will explain the project challenge as follows:

#### MicroChallenges

Micro challenge is the first project that we do in this program, a project that we will do for 1 (one) month, each group will be given a different theme and we have to determine the big idea of the application that we will make with the team. Themes given by mentors such as IoT, environment, social, carrier, and others. Every week we will carry out a pit stop to find out the progress of the team's project. And the result of this final project is an application prototype that has been designed with the team, this design is carried out with teamwork that has been arranged by the mentors. The design stage begins according to the direction of the mentor, namely using the design thinking method.

#### Macro Challenge

The macro challenge is the second project that we will do, this project is carried out for 1 (one) month with a different team from the previous challenge project but has been selected by the mentor of his team members, in this project the mentor gives us to choose our project theme and determine big idea that has been agreed upon with the team. At the end of the final station project, a prototype must be displayed and our application must be running with several views of our application properly and look real by coding using the Kotlin language with the Android Studio application, which must have been taught by previous mentors.

#### Massive Challenge

Massive Challenge is the last project that we will do, this project is carried out for 2 (two) months with a different team from previous projects and you can also work with the previous team if you want to continue the application that has been made. Because, in this massive project we were asked by the mentors to choose their own team members and groups and also determine their own theme, this project we are given the freedom to develop more and get to know each other in this project we will also join the web development group and mutually collaboration determines the same big idea so that not only the mobile application is created but also the web is available. As well as the mentor hopes that the project produced by the team in the form of a mobile application and also a web that can be used 100% will run well and be useful and the application and web can be registered by Google Playstore. So that this project has maximum benefits not only for students but also for the wider community along with the times.

## RESULTS AND DISCUSSION

### Independent Study

Referring to the official website of the Merdeka Campus provided by the Indonesian Ministry of Education and Culture, namely [campusmerdeka.kemendikbud.go.id](http://campusmerdeka.kemendikbud.go.id), it states that the Merdeka Campus Program is a new breakthrough from the Minister of Education and Culture, which has the goal of developing student knowledge to be ready for the world of work. Many types of programs have been launched for at least 8 programs that can be accessed by all students in Indonesia, namely:

1. Teaching Campus
2. Certified Independent Internship and Study
  - a. Apprenticeship
  - b. Independent Studios
3. Independent Student Exchange
4. Independent Entrepreneur

5. Indonesia International Student Mobility Awards
6. Teaching Practitioner
7. Rise by Google, GoTo, and Traveloka
8. Ministry of Energy and Mineral Resources - Guerrilla

Independent Study is an exclusive form of activity contained in the Merdeka Campus Program, which allows students to master applied knowledge across various departments by cooperating with experts in their respective fields. Students have the opportunity to gain knowledge from individuals who have proven to be professionals and experts in their fields, resulting in an extraordinary synergy between theoretical understanding and practical application. In addition, this program gives freedom for students to go beyond the boundaries of their majors, attract their interests and develop hidden talents [1].

In practice, sometimes students often misunderstand the difference between independent studies and internships, this is understandable considering that independent study is still a relatively new concept. According to the unycommunity.com page, there is a fundamental difference between independent studies and internships which lies in the learning approach applied by partners. In independent studies, partners assume that students still do not have the basic knowledge to be learned, so partners provide guidance from elementary to secondary levels to students. Furthermore, there is a final assignment which is an assessment of the mastery of the skills learned. On the other hand, in apprenticeship, Partners assume that students have mastered the basic skills or positions that they will carry out at least at an intermediate level or even higher, according to their respective abilities. Thus, the weight of tasks and responsibilities in an independent study is much lighter when compared to an internship [2].

### **Task Completion Methodology**

Within 5 (months) of implementing Independent Studies at Infinite Learning Batam, the author has gone through 3 (three) major projects with several individual assignments in addition. The mechanism for completing each project and the daily tasks that the author has worked on for the past 5 (five) months is as follows.

#### **Project Micro Challenge**

This project was carried out for 1 (one) full month from March 3 2023 to March 30 2023, the topic of the problem raised was education or education by raising topics around helping to make it easier for teachers to teach elementary school children. Starting from complaints from school children in the surrounding environment, the team found many student complaints regarding the understanding of learning and teaching that was applied, especially public elementary schools (SDN). The psychological condition of children at the age of 6-10 years requires more attention and guidance from the teacher in understanding the material and making decisions. The teacher's influence on children's learning outcomes at school can reach 30% or more. This shows that teachers have a very important role in improving the quality of learning and children's learning outcomes at school.

In the world of education, teachers also often experience various complaints when teaching, many factors and obstacles that often occur during learning. For example, regarding the low level of student concentration, it disrupts the learning process. In addition, many teachers feel burdened with administrative tasks such as making reports and filling out documents related to learning. Furthermore, in this context, many teachers feel burdened with poor teaching management which causes poor teaching performance. Therefore, the need for learning methods that are able to accommodate learning activities that are easy and fast. Technology currently plays an important role in accessing learning activities,

After we know all the problems that exist in the world of education and have found a solution, our next action is to create an application which provides features for compiling teaching materials and recommendations for learning methods that can be applied according to

teaching schedules, both digitally and in class. We want to create an application system to help organize teaching instruments, simplify the learning process, increase teaching effectiveness, and easily monitor student progress. With this application later, teachers can manage their schedules and choose instruments that suit the needs of students.

### Team Member

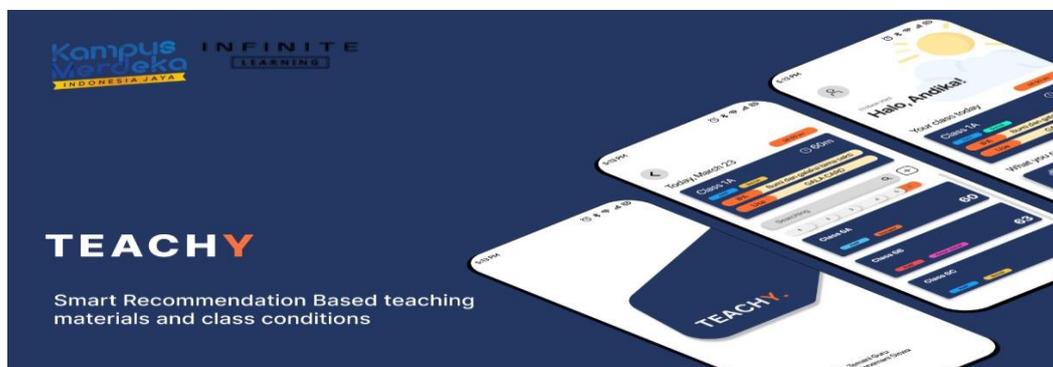
List of names and campus institutions from which they came and positions that have been successfully filled by mutual agreement. It is important to note that the selection of these names has been arranged by the partners and has been optimally adjusted to the areas of expertise they have. In this context, students are given the opportunity to complement each other's vacant positions, so as to achieve the desired harmony. Following are the names of the team members along with their campus origins and the roles or positions filled according to the mutual agreement can be seen in Table below.

**Table 1.** Micro Challenge Team Members

Name	University	Position
Hafara Putri Fardayan Awalza	Batam Institute of Technology	<i>Product Manager</i>
I Gusti Ngurah Adi Permana	Institute of Technology and Business STIKOM Bali	<i>Programmer</i>
Annisa Laila Rahmawati	Jember State Polytechnic	<i>Programmer</i>
Nathaniel Kevin Kurniawan	Malang Sticky	<i>Programmer</i>
Mikais Rizki Triawan	King Ali Hajj Maritime University	<i>designer</i>
<b>Eunike Meulina Brother Tarigan</b>	Medan LP3I Polytechnic	<b><i>designer</i></b>

Source: Author (2023)

Project Micro Challenge brings application development to the prototype or simulation stage, using existing application designs. In this case, we provide a clear description of the application. We are proud to present a brief look at this innovative application which we call "Teachy". Made with dedication and armed with the latest technological sophistication, Teachy is designed to embrace the educational revolution in the digital age. The following Teachy application mockup can be seen from Figure 3.1 below.



**Figure 2.** Teachy Application Mockup

The following shows a demo of the application which is the main feature of the application, such as the onboarding display to the homescreen display and the Te-Note and Class List features. The following demo of the Teachy application can be seen from Figure 3.2 below.

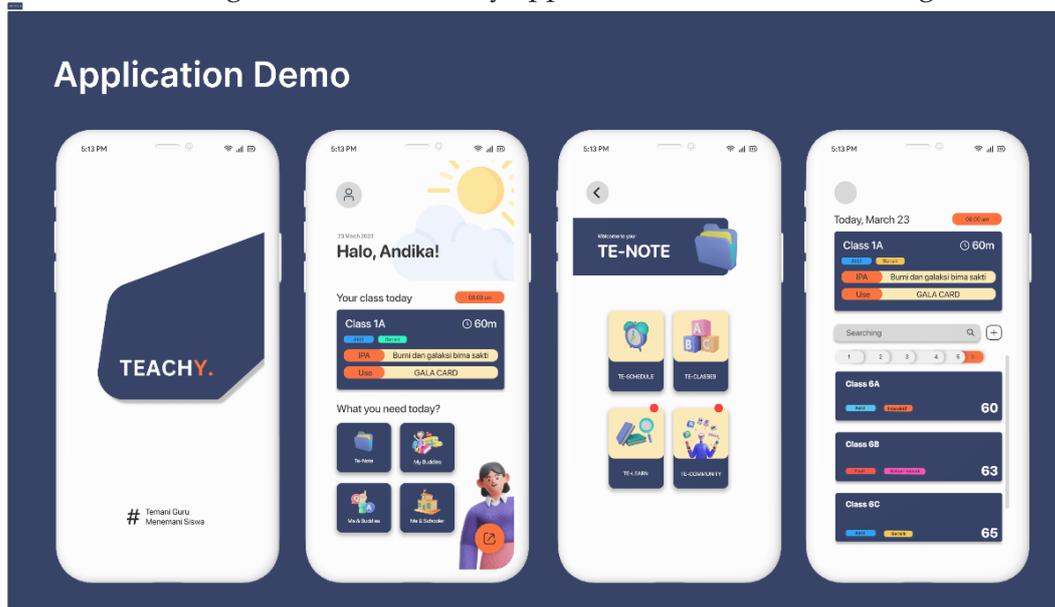


Figure 3. Teachy Application Demo 1

The following are other features in the Teachy application, there are several menu options for student names, attendance and student personal data information. The following demo of the Teachy application can be seen from Figure 3.3 below.

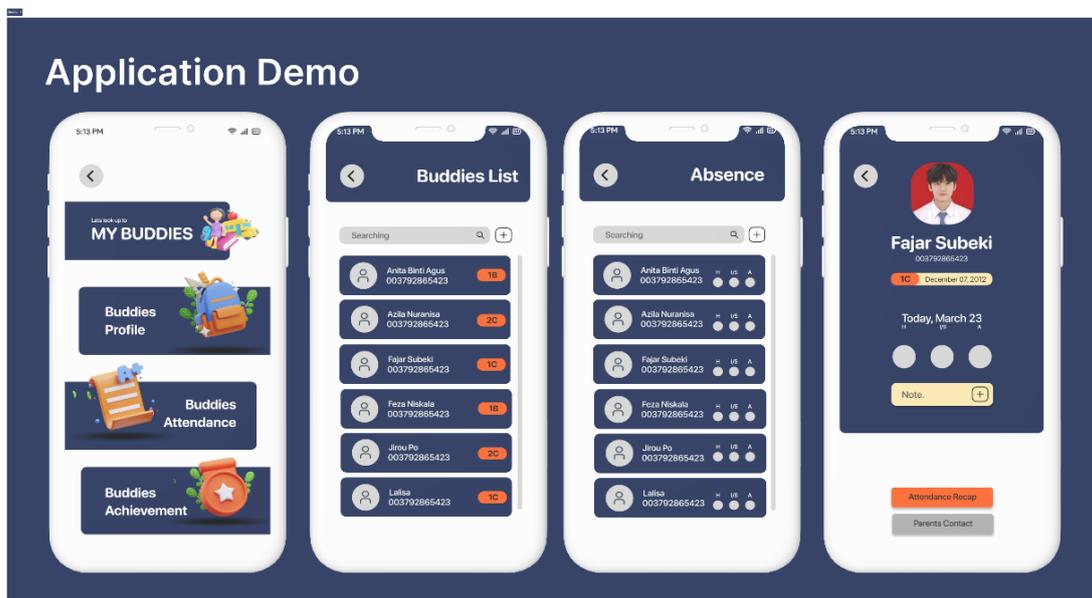


Figure 4. Teachy 2 Application Demo

### Project Macro Challenge

The deadline given for the Project Macro Challenge is April 4 to May 4 2023. In this project we got the theme of health, in this project we got one of the inspirations that can be taken is the story of Yenni Avaloki, a mother who loves her and patience in facing challenges in parenting children who have Down syndrome. Yenni Avaloki's story reflects the experiences of many

other parents who have faced similar difficulties. The Project Macro Challenge is an opportunity for participants to make a real contribution in improving the quality of life for children with this special condition and easing the burden on parents in caring for their children.

Children with Down syndrome need the right support and information to care for them with special needs. As a parent, it's important to me to find effective strategies for dealing with children's tantrums and helping them better manage their emotions. I realize that the daily challenges of raising a child with Down syndrome can be overwhelming, but with educational programs, community support, and family counseling, we can deal with them much better. Dealing with tantrums in a child with Down syndrome can be a challenging experience, but with the right understanding and strategies, we can help them better cope with their emotions. Through educational programs specifically aimed at children with special needs, In the Project Macro Challenge, a "Foster" application will be created that provides assistance and convenience to parents in developing the talents of children with Down syndrome. This application has a mood tracker feature to monitor the development of children's emotional stability, record and understand children's habits, give appreciation to parents or caregivers, psychological approaches with parents, and support collaboration and community among parents. This application aims to provide holistic support to parents in educating children with Down syndrome, facilitate a better understanding of children's needs and development, and create a mutually supportive community.

### Team Member

The following are the names and other descriptions of the team members which include the origin of the campus and the positions filled at the time of the project, as well as the names of the members who have been arranged by partners but the positions or roles discussed together so that they agree with the position.

**Table 2.** Mobile Massive Challenge Team Member

Name	University	Position
MohammedAulia Rizki	Shia Kuala University	<i>Product manager</i>
Ari Chandra Kusuma	Esa Superior University	<i>Programmer</i>
Eunike Meulina Brother Tarigan	Medan LP3I Polytechnic	<i>Programmer</i>
Lizzam Sekar Nollo Henning	Indonesian university education	<i>designer</i>
Dessy Chu	King Maritime University Ali Hajji	<i>designer</i>

Source: Author (2023)

### Application Overview

Our Project Massive Challenge has completed it to the application stage, has not had time to publish it to the Google Play Store because the verification process is still not complete, is the first page that displays a brief description of the application made such as the logo and the name of the application, namely Socialify (Find Your Community). there are also several views of the mainstay features of the Socialify application. The display can be seen in Figure 3.4 below.

Furthermore, in demo display 1 there is a mainstay feature of the Socialify application, namely the display after joining the socialify group community, there are several displays on the Socialify mobile application. One of them is searching for a list of communities in the socialify application. display of several initial menus from the Socialfy application such as onboarding, login, home page to the community group search menu.

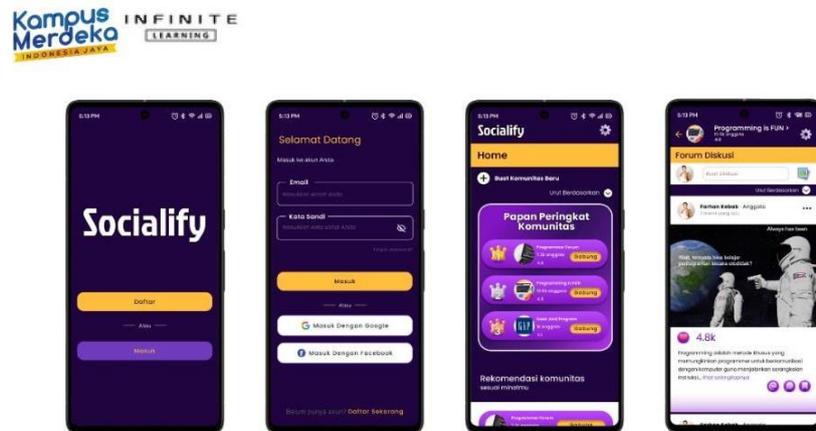


Figure 4. Socialify Application Demo 1

Next, there is a display of several initial menus from the Socialify application such as onboarding, login, home page to the community group search menu. There is a mainstay feature of the Socialify application, namely the display after joining the Socialify group community, displaying the names of community members, displaying event features when live takes place. As well as searching for a list of communities in the socialify application. Next, there is a display of several initial menus from the Socialfy application such as onboarding, login, home page to the community group search menu. The display can be seen in Figure 3.5 below.

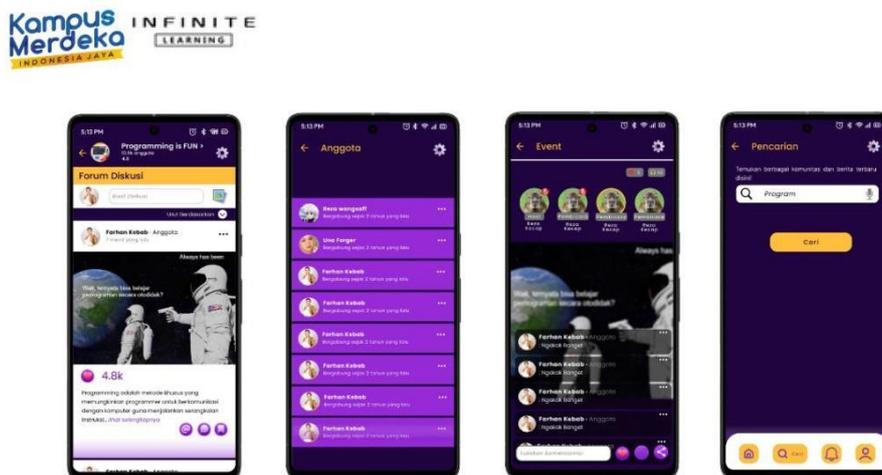


Figure 5. Socialify Application Demo 1

## CONCLUSION

After completing the Independent Study program at Infinite Learning, we can conclude the following: Project management within a team is an important foundation to learn before entering the professional world. Collaboration, communication, and responsibility skills are essential for managing projects effectively. These skills help participants prepare to work in a professional environment where teamwork is essential. Collaboration While participating in this program, we have the opportunity to collaborate with fellow program participants and

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develop our application projects. We work together on team projects, share ideas and help each other achieve our goals. The field of UI/UX design is a profession that is in great demand by many companies today. UI/UX designers have the ability to describe existing problems into good simulations, both in developing websites and mobile applications. This makes them very valuable because they can create a good user experience. Android application development is a field of profession that is needed today considering the importance of mobile devices in everyday life. Every company that uses mobile services must pay close attention to their application development. Therefore, mobile application developers are in high demand and are becoming an integral part of today's professional world. This makes them very valuable because they can create a good user experience. Android application development is a field of profession that is needed today considering the importance of mobile devices in everyday life. Every company that uses mobile services must pay close attention to their application development. Therefore, mobile application developers are in high demand and are becoming an integral part of today's professional world. This makes them very valuable because they can create a good user experience. Android application development is a field of profession that is needed today considering the importance of mobile devices in everyday life. Every company that uses mobile services must pay close attention to their application development. Therefore, mobile application developers are in high demand and are becoming an integral part of today's professional world.

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