



جامعة جدة
University of Jeddah

**University Of Jeddah
College Of Computer Science and Engineering
Software Engineering Department**

**TalentDesire
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Chapter 1: Planning

“In this section, we will discuss about the context and the problem we will solve, aims, objectives, report outline and our project plan.”

1.1 Description of the context (Scope) and the problem to solve

When we starts our collage career we had issues in some subjects like not being able to have the full knowledge, if you miss some class we have hard time to recap, so the problem is the student cannot find anyone to help if needed, he needs to look up and search for another students and doctors by himself, thus our program helps students and doctors to get help sooner, easier, scheduled, and in an effective way.

Some of the futures of our system is to make sure the students have the help they need, and book sessions.

And for those talented student and teachers will have the opportunity to earn money be teaching other student and the teachers can vouch for the talented student so they can have credibility.

1.2 Aims

As student when we first started going to college, we suffered a lot in the beginning.

It took us a long time to find resources and help, so our main goal is to develop an application where students can easily find help, whether it from talented students or doctors, so creating a community will make sure every student can find help if needed.

Regarding talented students, they can develop the gift they have by practicing and teaching.

The aim for a talented student is to grow their skills and build connections that can help them in their professional career.

1.3 Objective

- Improve the standard of learning and teaching.
- Interpret students' needs of requiring help.
- To ensure they get help in a short time manner and in a high-level of expertise.
- Giving the student more than one opportunity to understand the lesson.
- Apply paid lessons, and free lessons.
- Gather students/doctors in a community.
- Establish connection between students.
- Design user friendly application.
- To differentiate between talented and average students.
- To reduce amount of time spent on helping students.

1.4 Report outline



Figure 1 Report Outline

1.5 Project plan

Title	Assignees	Status	Phase	Start Date	End Date
Description of the context (Scope) and the problem to solve	Abdulrahman	Completed	Planning	Sep 14, 2022	Sep 14, 2022
Aims	Owis	Completed	Planning	Sep 14, 2022	Sep 14, 2022
Objectives	Mohammed	Completed	Planning	Sep 14, 2022	Sep 14, 2022
Report Outline	Abdulrahman, Owis, Mohammed	Completed	Planning	Sep 14, 2022	Sep 14, 2022
Project Plan	Abdulrahman, Owis	Completed	Planning	Sep 14, 2022	Sep 14, 2022
Stakeholders' definition	Abdulrahman	Completed	Problem Understanding	Sep 25, 2022	Sep 25, 2022
Detailed Description of the background (project domain)	Abdulrahman	Completed	Problem Understanding	Sep 25, 2022	Sep 25, 2022
Literature Review	Owis	Completed	Problem Understanding	Sep 25, 2022	Nov 1, 2022
Comparison criteria definition	Mohammed	Completed	Problem Understanding	Sep 25, 2022	Nov 1, 2022
Comparison results and the feasibility study	Mohammed	Completed	Problem Understanding	Sep 25, 2022	Nov 1, 2022
Functional & Non-Functional Requirements	Abdulrahman	Completed	Analysis	Oct 6, 2022	Oct 6, 2022
Hardware Requirements	Abdulrahman	Completed	Analysis	Oct 6, 2022	Oct 6, 2022
UML Diagrams	Abdulrahman, Owis	Completed	Analysis	Oct 6, 2022	Nov 8, 2022
Data collection instruments (Data logger)	Owis, Mohammed	Completed	Analysis	Oct 6, 2022	Nov 8, 2022
System Architecture	Abdulrahman, Owis	Completed	Design	Oct 20, 2022	Nov 7, 2022
Diagrams (If Applicable)	Abdulrahman, Owis, Mohammed	Completed	Design	Oct 20, 2022	Nov 6, 2022
User interface Design (If Applicable)	Owis, Mohammed	Completed	Design	Oct 20, 2022	Nov 7, 2022

Table 1 Project Plan

1.6 Skills & Tools

Talent Desire will be developed using the latest techniques in the industry, In the Planning and Designing we will use Figma to visualize the UI/UX and in the Development and Implementation field we will be using React native to build a cross-platform project to ensure Accessibility and Usability for any user from anywhere, Firebase will be the Back end and the only API for our database and storage.

Chapter 2: Problem Understanding

“In this section, we will discuss about the problem how we found it difficult and how we are going to solve it”

2.1 Stakeholders definition

Stakeholders are any employee/student, or anyone has an account in UJ Active Directory, Facility members are also included, which will prevent any unauthorized access, Firebase is also a stakeholder only in this demo, and any user can be a Talented member which will have more features.

- University Of Jeddah.
- Students.
- Teaching crew (Doctors/Professors).
- Database.
- Talented Students.

2.2 Detailed Description of the background (project domain)

TalentDesire is aimed for students as an Educational, Financial, Beneficial tool/program to help with educational matters, technical issues, sharing knowledge and socializing, as a Student in UJ in my personal perspective I find it difficult to find someone who would be able to help me with anything that I came up with and I found this more disturbing to face especially when it comes to Software, the students are more aware of this issue, they tried so many times to communicate using a WhatsApp groups, Telegram groups or any Social media platforms and it is also a lot problematic, because we are talking about maybe 300-700 members are in the same chat so you cannot catch any messages you missed. The ideal of our application is that you will find any Talented member with the skill that you are looking for, you can schedule a meeting with him, socialize, and ask for guidance. Our solution is to create a platform that gather UJ student together to share their skills and experience.

2.3 Literature Review

The purpose of the project under consideration is to find talented students to share their skills and help other students in need by creating a platform for them to display their capabilities and knowledge.

First, when we started our collage journey, we had rough time with gaining knowledge of some subject and finding people to help you it is near impossible thing to do, so creating a platform that gather people with each other and exchange knowledge will improve the students in their career.

We started as a group to have occasional meeting to find a way to help students, what we have found was that the student lack a platform to display their skills and there is so many talented students that want to share their knowledge so developing a platform for them will help student overcome a lot of issues in their career and possess many skills that can be used in different job areas.

At the end, facing these issues in the beginning of our collage journey made us aware of the collage environment, so we made sure that we develop a product that will help student and shape their talents.

2.4 Comparative review

1- Skillshare: is an online learning community where anyone can discover, take, or even teach a class. Anyone can join Skillshare to start watching online classes, create projects, and even become a teacher.

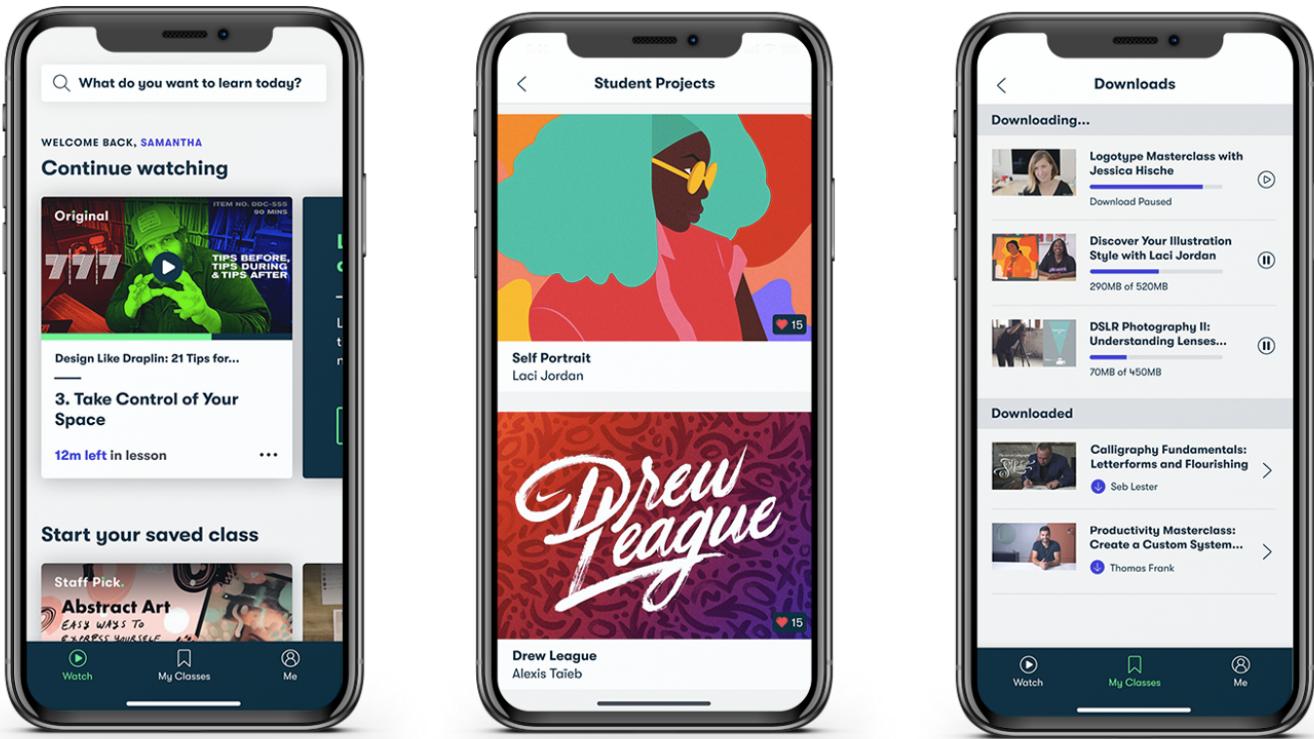


Figure 2 Skillshare

2- Pluralsight: is the global leader in high-quality online training for hardcore developers and IT pros.



Figure 3 Pluralsight

2.4.1 Gaps in Available Research

The major differences between our application and the two applications mentioned above that the meeting between the student and the talented is in person which helps with solving issues and sharing knowledge, it is more reliable for a student to meet with another student in person they both can express emotions and gain more experience.

The upside of our application is that the student/talented are in the same university so there will be no hard communication between them, unlike the mentioned applications. And the talented student can help beneficially from helping other people which will lead to upscaling the community.

Chapter 3: Analysis Phase

**“In this section, we will deep dive into the
Functional Requirements and Non-
Functional Requirements, Hardware
Requirements, UML diagrams, and Data
Loggers”**

3.0 Functional Requirements

ID	Title	Description
1	Download Mobile app	A user should be able to download the mobile application through either an application store or similar service on the mobile phone. The application should be free to download.
2	Create account	User should be able to create an account.
3	Login	Students/Facility Members should be able to login with their credentials using SMS Verification code
4	Apply for a Talented Account	Students/Facility Members should be able to Apply for a Talented account.
5	Schedule Meetings	Users should be able to schedule a meeting with a Talented member.
6	Accept/Decline Requests	Talented member is required to accept/decline a meeting with a user.
7	Privacy	No one can see the phone number or email for any user for privacy concerns.
8	Chat availability	User can chat with a Talent member after order approval.
9	Create a Service	Users with Talented Role can create a paid/free service and show it to services page.
10	Request Service	Any user can ask for any service from any Talented member.

Table 2 Functional Requirements

3.1 Non-Functional Requirements

ID	Title	Description
1	Performance	System should response to a user request within maximum time of 2 seconds (2000ms).
2	Scalability	System should be working fine with a large dataset and should normally operate.
3	Portability	System could be minimize & portable to users with a less complexity level.
4	Compatibility	System must be compatible with iOS and Android
5	Reliability	Users/Talented will be able to perform any task with 99% of time without issues
6	Maintainability	System should be able to resolve any issue on its own but, in cases of a high severity or critical issues, the maintenance should take less than four hours.
7	Availability	Users/Talented will be able to perform their usual tasks all the time, In the case of unplanned system downtime, all features will be available again after one working day.
8	Security	Users/Talented cannot see any data such as (email, phone number, etc..).
9	Localization	System should adapt English and Arabic languages with a smooth implementation to be able to add any language in the future.
10	Usability	System should be user-friendly and follows the principles and guidelines for User Experience

Table 3 Non-Functional Requirements

3.2 Hardware Requirements

Minimum Requirements:

- Apple iPhone with A12 Bionic Starting from iPhone XS series until latest iPhone 14 series with at least iOS 12.6.
- Android Version 7.0 Nougat and newer.

Recommended Requirements:

- Apple iOS with A13 Bionic iPhone 11 series with iOS 16.0.
- Android Version 11.

3.3 UML Diagrams

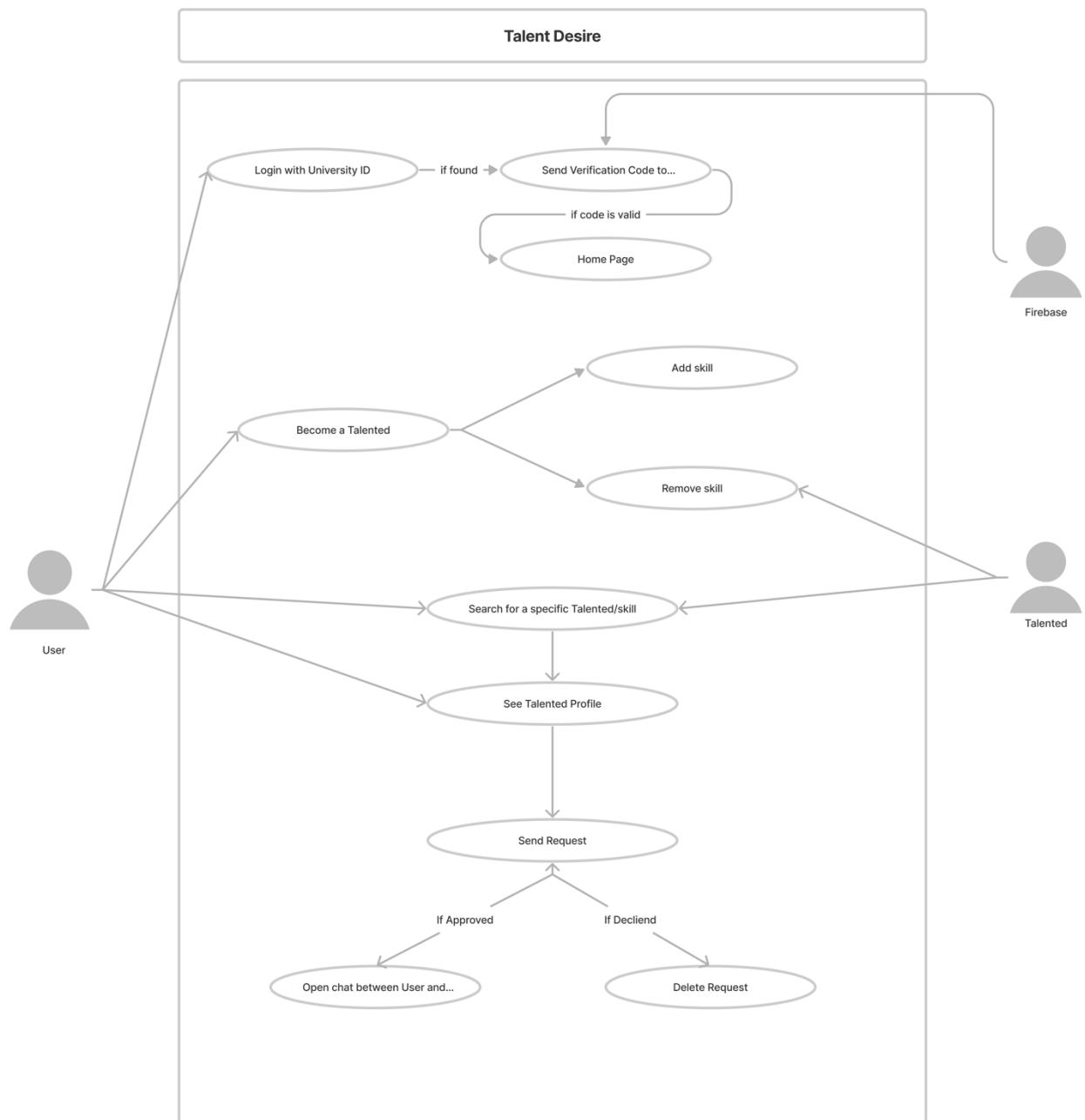


Figure 4 Detailed Use Case Diagram

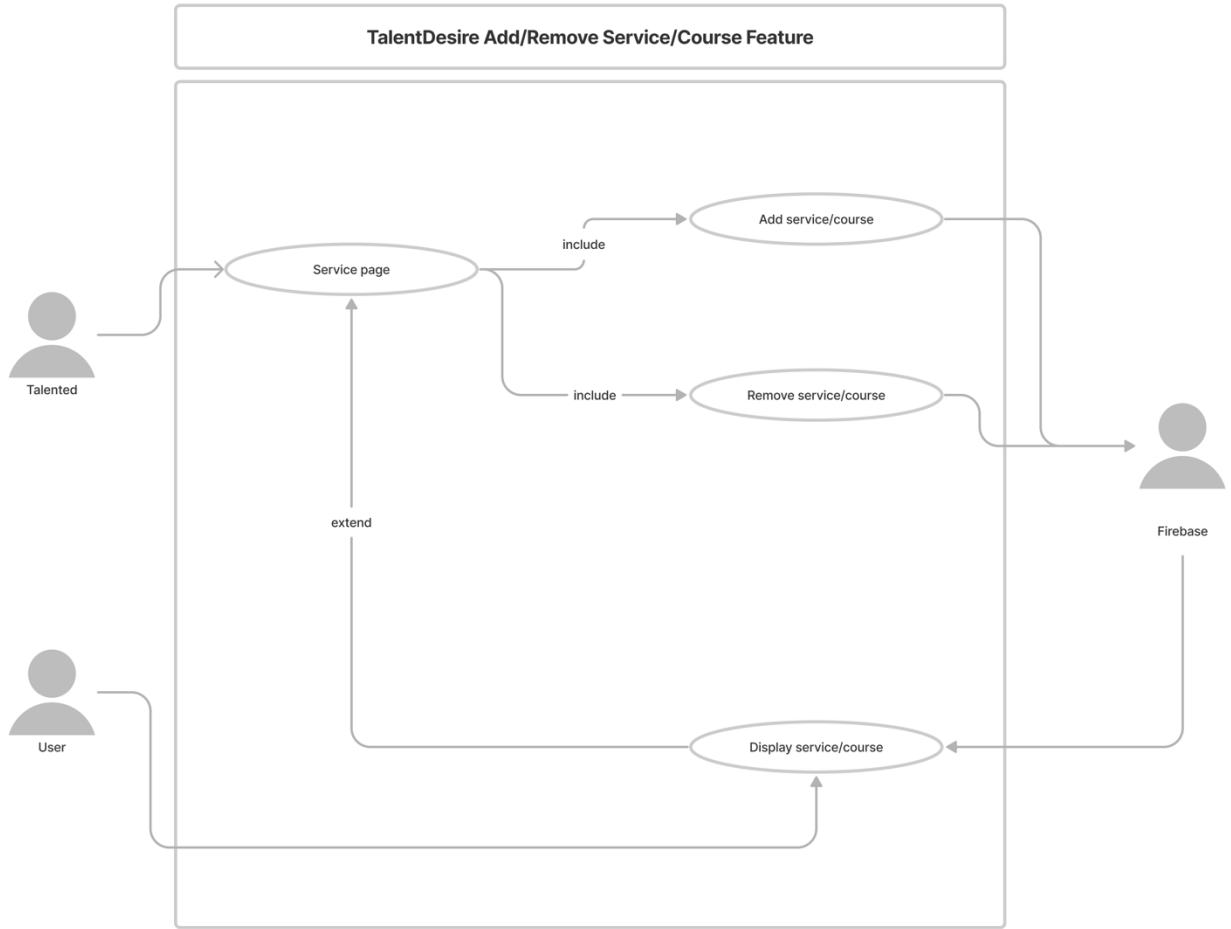


Figure 5 Add/Remove Course/Service Use Case Diagram

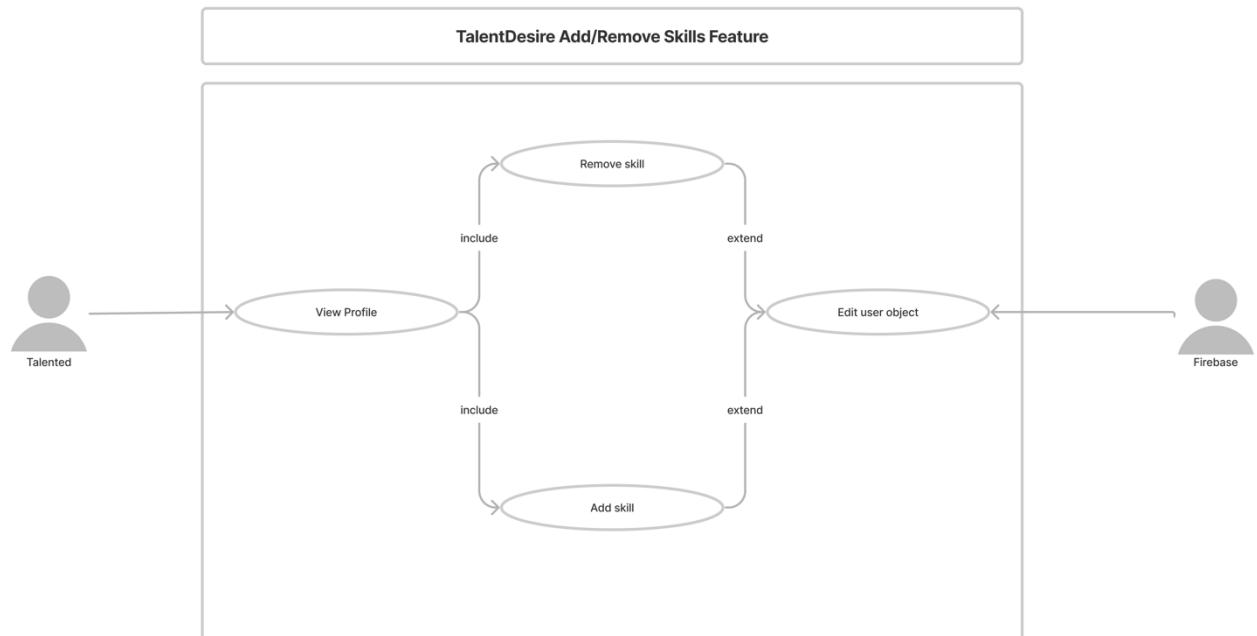


Figure 6 Add/Remove Skill Use Case Diagram

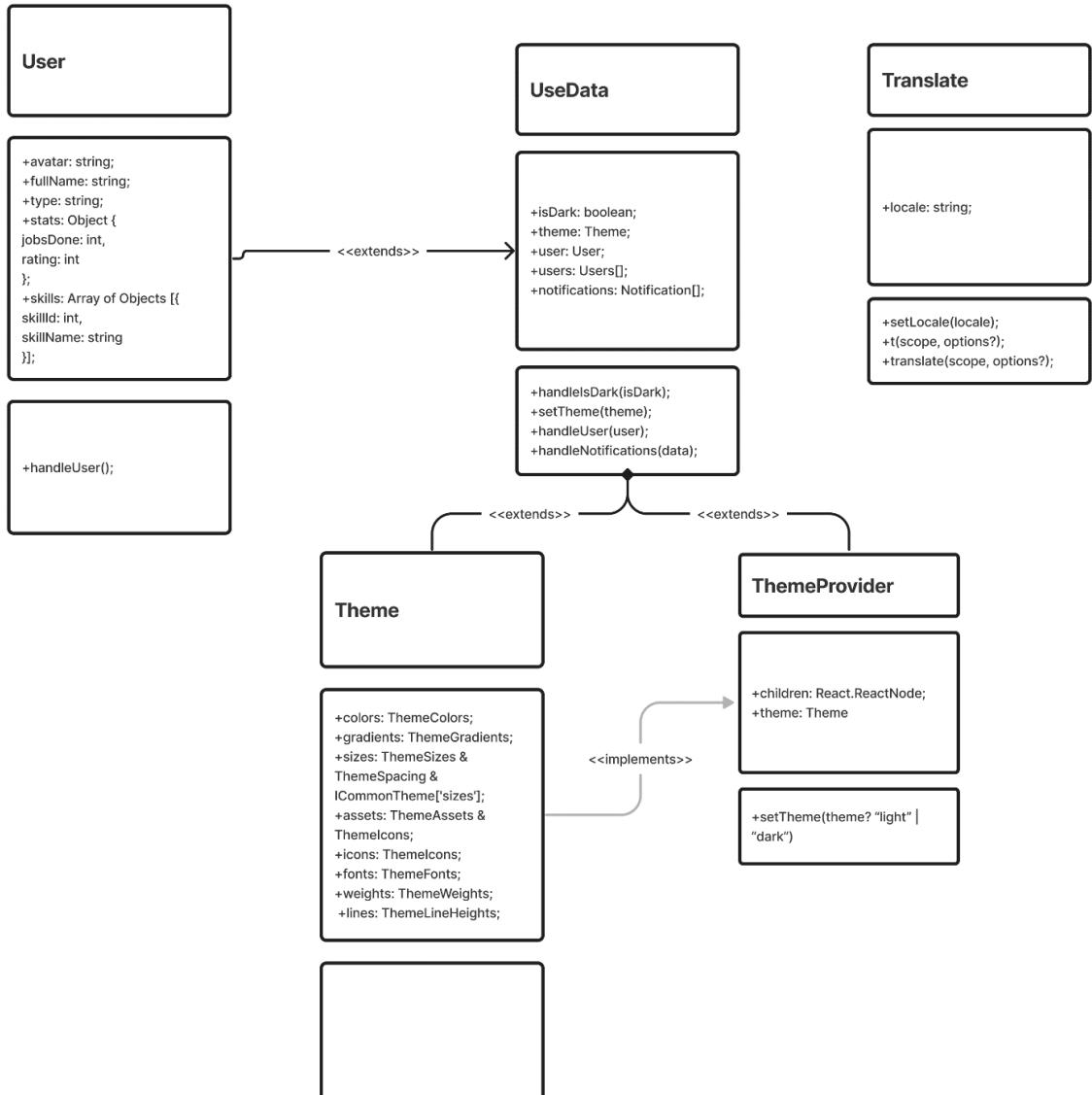


Figure 7 Class Diagram

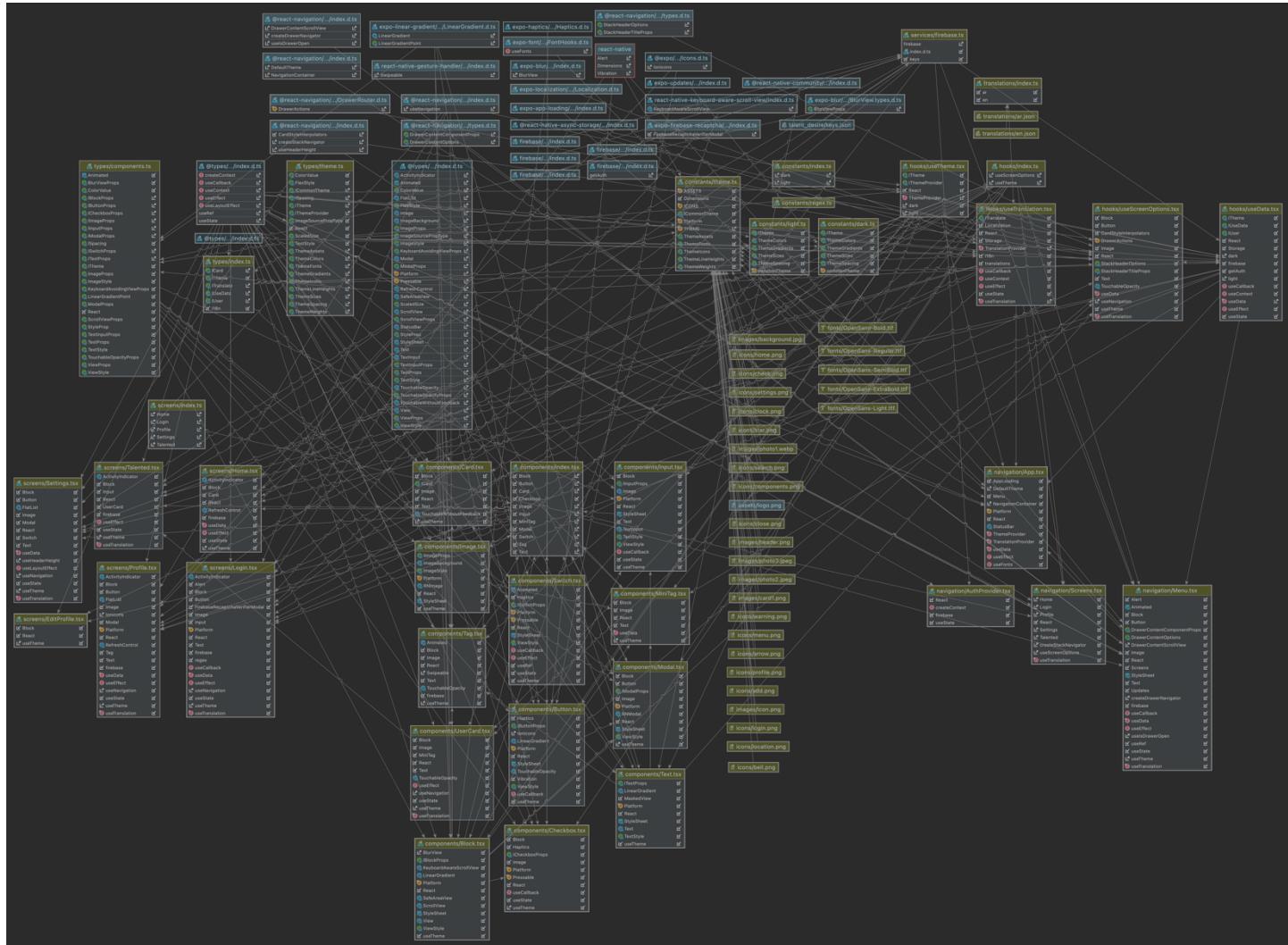


Figure 8 Detailed Class Diagram

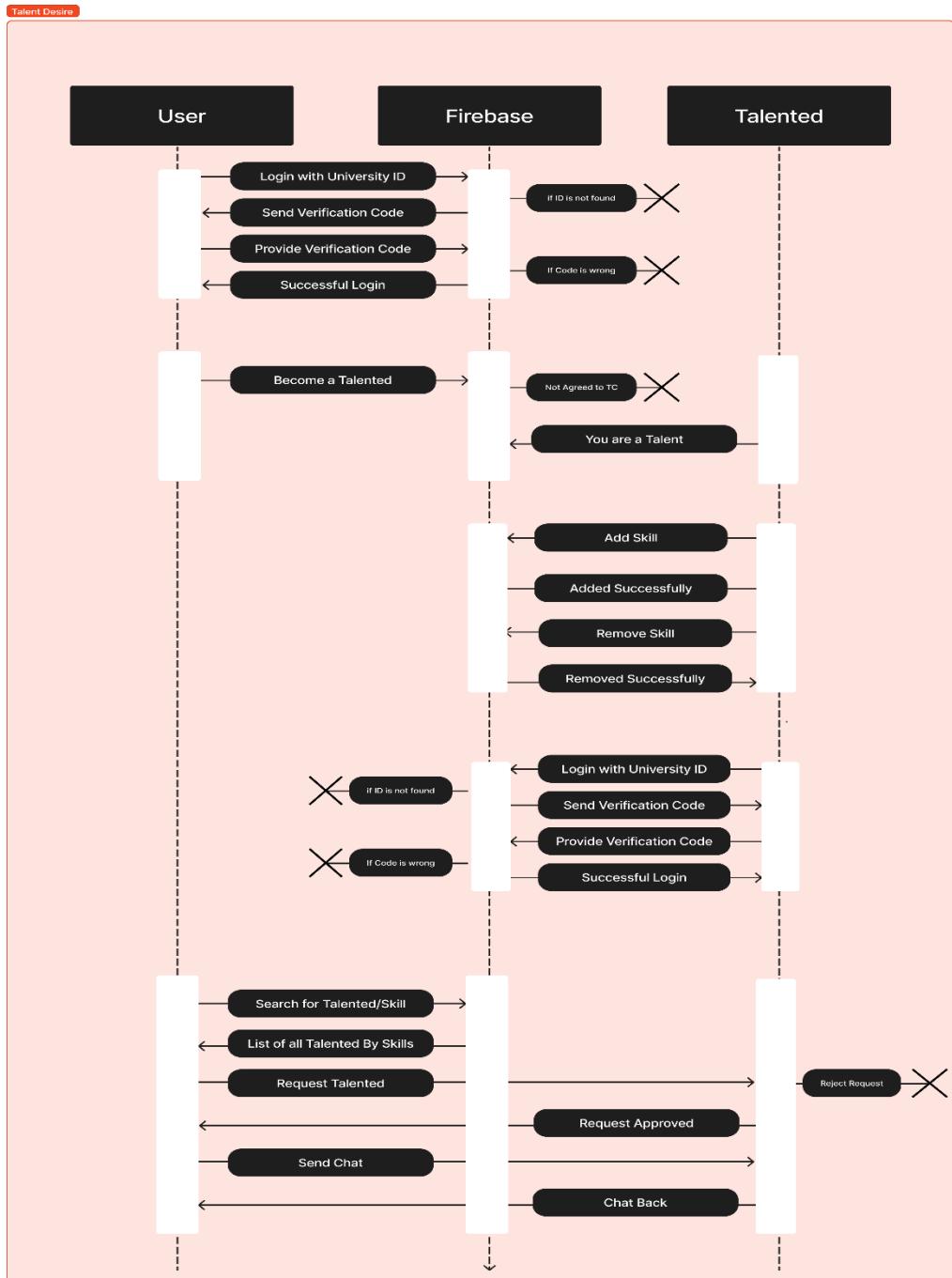


Figure 9 Sequence Diagram

Login Model	
Use case Id	UC01
Use case Name	Login
Actors	User & Talented
Preconditions	User must be registered to UJ Domain
Flow of events	<ol style="list-style-type: none"> 1. User enter their university id 2. User request a verification code 3. Code is sent to their phone 4. User provide code and login
Post conditions	System verify the user whether the information is correct or not.

Table 4 Login Model

Request Service Model	
Use case Id	UC02
Use case Name	Request Service
Actors	User & Talented
Preconditions	User must choose a Talented based on a service announcement from the Talented or from Talented page
Flow of events	<ol style="list-style-type: none"> 1. User/Talented enters the Talented profile/Service announcement 2. User/Talented request the Talented for help with a box of description 3. Talented will receive a notification in the Requests page, then he can either Accept or Decline the request 4. If declined the request will disappear, if accepted a chat will be opened for the User and Talented and they can contribute together where they can also schedule a meeting.
Post conditions	System verifies the user whether the information is correct or not.

Table 5 Request Service Model

Add Service/Course Model	
Use case Id	UC03
Use case Name	Add Service/Course
Actors	Talented
Preconditions	Only Talented members can add service/course
Flow of events	<ol style="list-style-type: none"> 1. Talented will be able to add service/course with a button click 2. Talented must provide more details in terms to add the service such as (Service/Course Name, determine if it is paid/free Service/Course, if it is a course then provide a date and seat limit and a classroom) 3. Service/Course will appear in a screen for users to apply.
Post conditions	System verifies if the entered data is valid.

Table 6 Add Service/Course Model

Enroll to a Course Model	
Use case Id	UC04
Use case Name	Enroll to a Course
Actors	User & Talented
Preconditions	Check if there is an available seat or not
Flow of events	<ol style="list-style-type: none"> 1. User/Talented can enroll to any course. 2. At the time of Course the Talented will check attendance, to provide more security users will have to accept Talented attendance request. 3. System will create an invoice for user and a notification to the Talented
Post conditions	System validates if Talented & User are together and will create an invoice.

Table 7 Enroll to a course

3.4 Data Collection Instruments

We have conducted a survey to help us understand user needs and functional/non-functional requirement, so we have targeted student to achieve our goals.

Survey design



Figure 10 Survey Flyer

Survey Analysis

7 participants

Ages between 20-24

Between Level 7-10 From Software Engineering Department

Survey results

Do you have difficulties finding knowledge?

7 responses

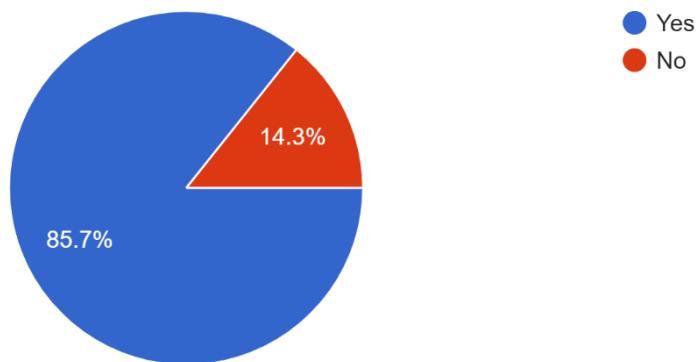


Figure 11 Pie Chart for question 1

Can i easily find help with the subject?

7 responses

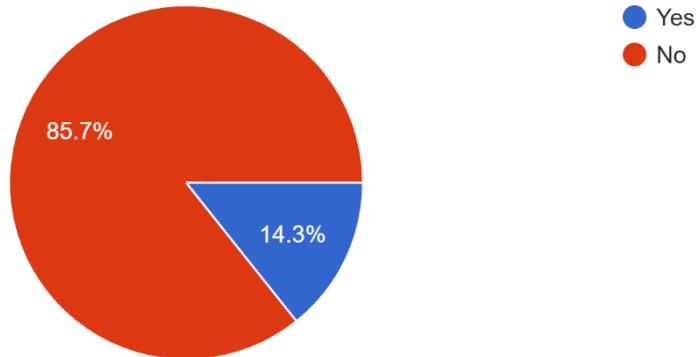


Figure 12 Pie Chart for question 2

Are there varieties of platforms for displaying my skills?

7 responses

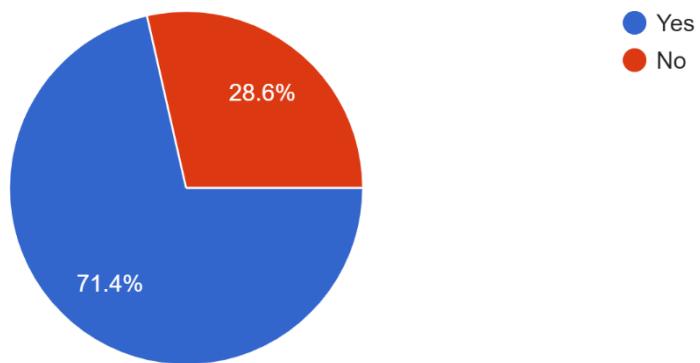


Figure 13 Pie Chart for question 3

Do you need help most of the time?

7 responses

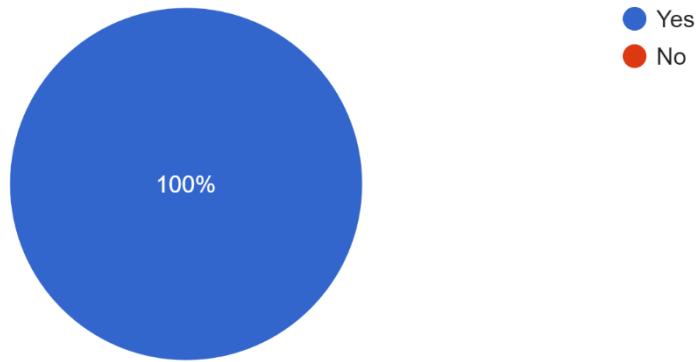


Figure 14 Pie Chart for question 4

Are you willing to help other people?

7 responses

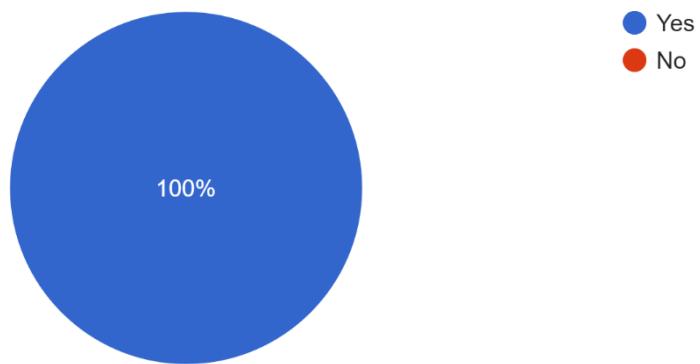


Figure 15 Pie Chart for question 5

How often do you want help in a subject?

7 responses

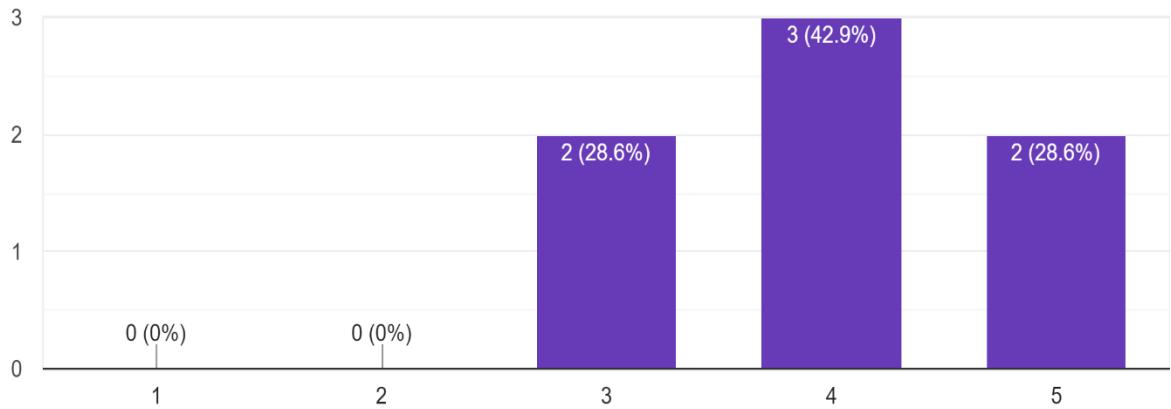


Figure 16 Pie Chart for question 6

How hard can you find people to help?

7 responses

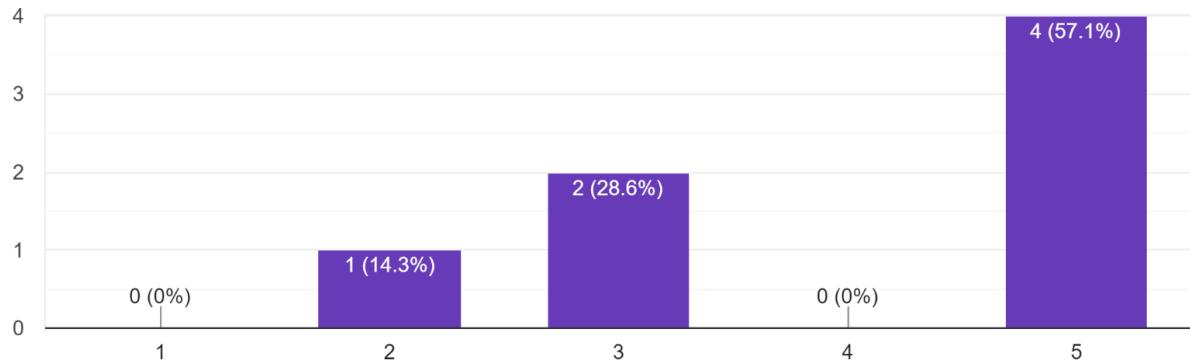


Figure 17 Pie Chart for question 7

Chapter 4: Design Phase

“In this section, we will look more into our System Architecture, Diagrams, and we will look into our beautiful User Interface”

4.0 System Architecture

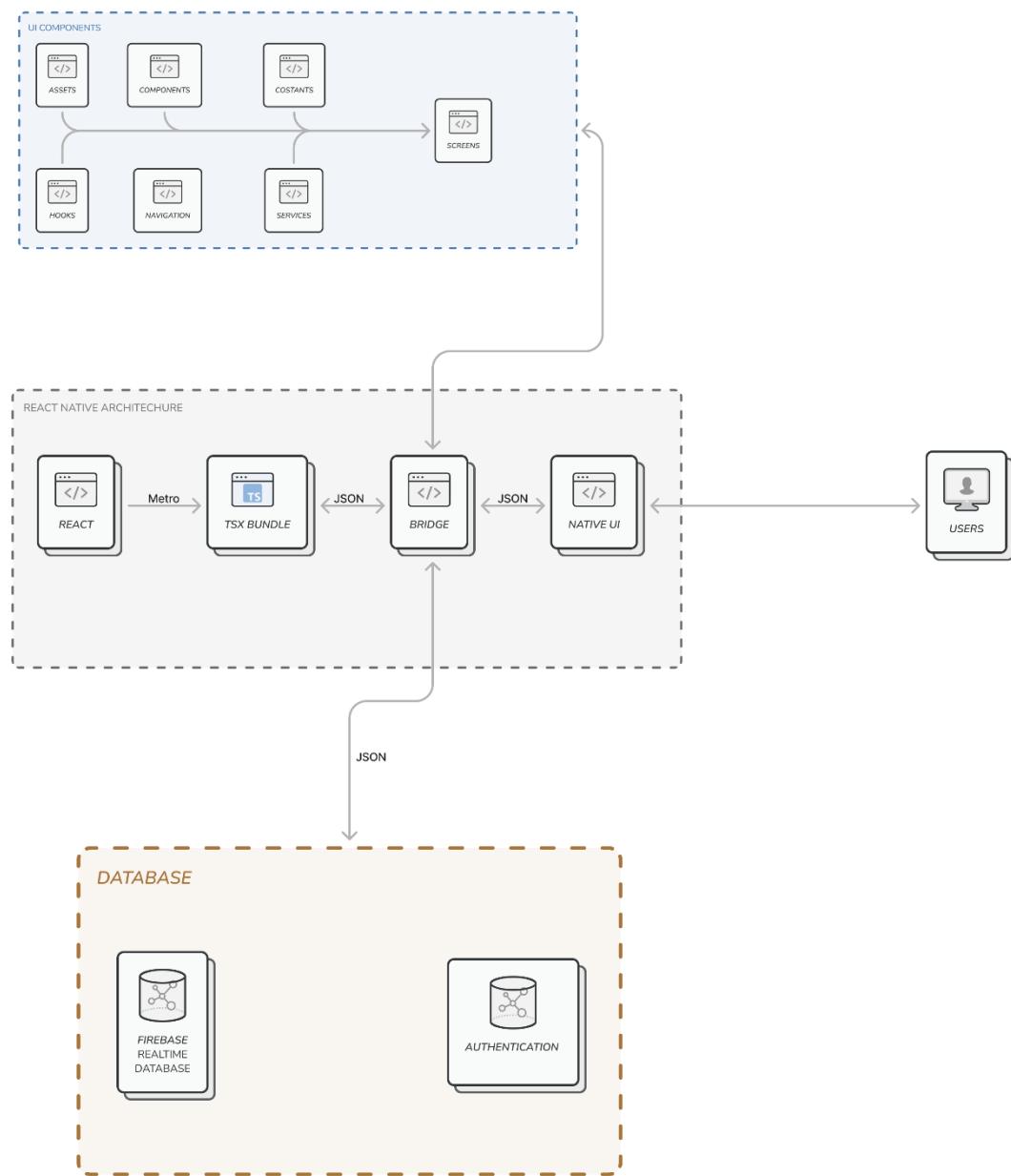


Figure 18 System Architecture

4.1 Diagrams

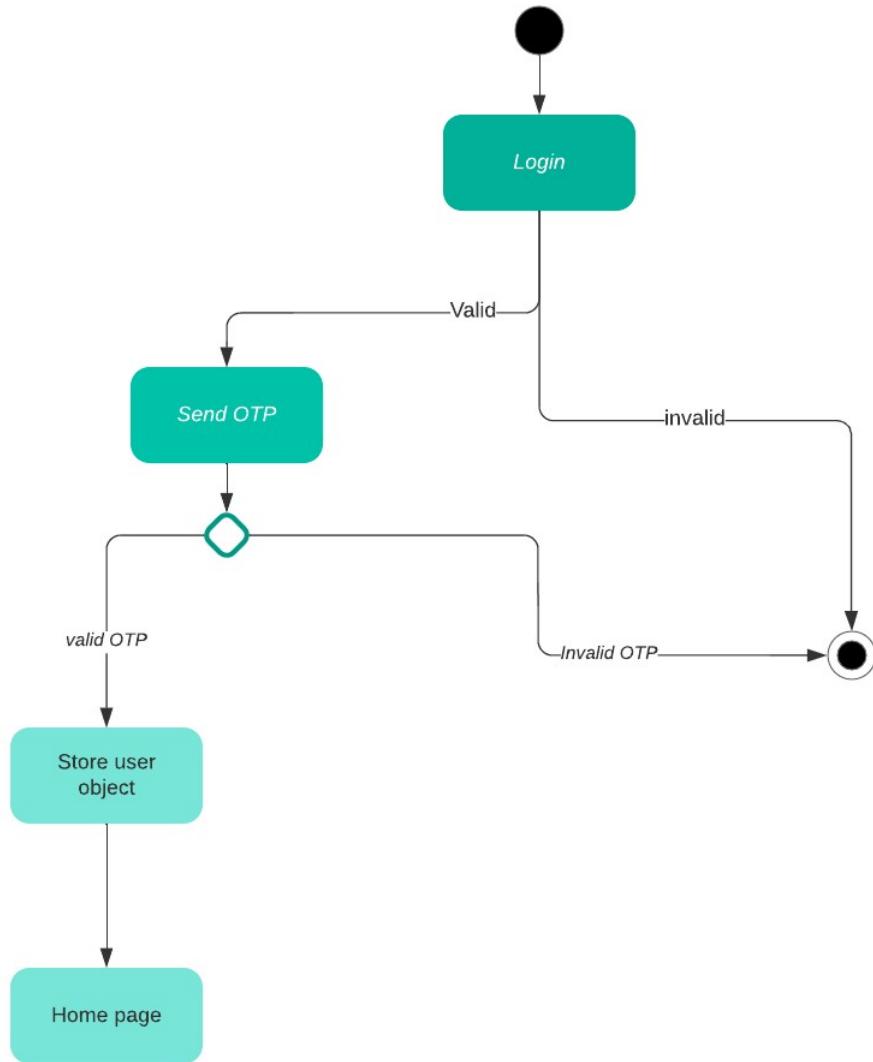


Figure 19 State Diagram for Login Model

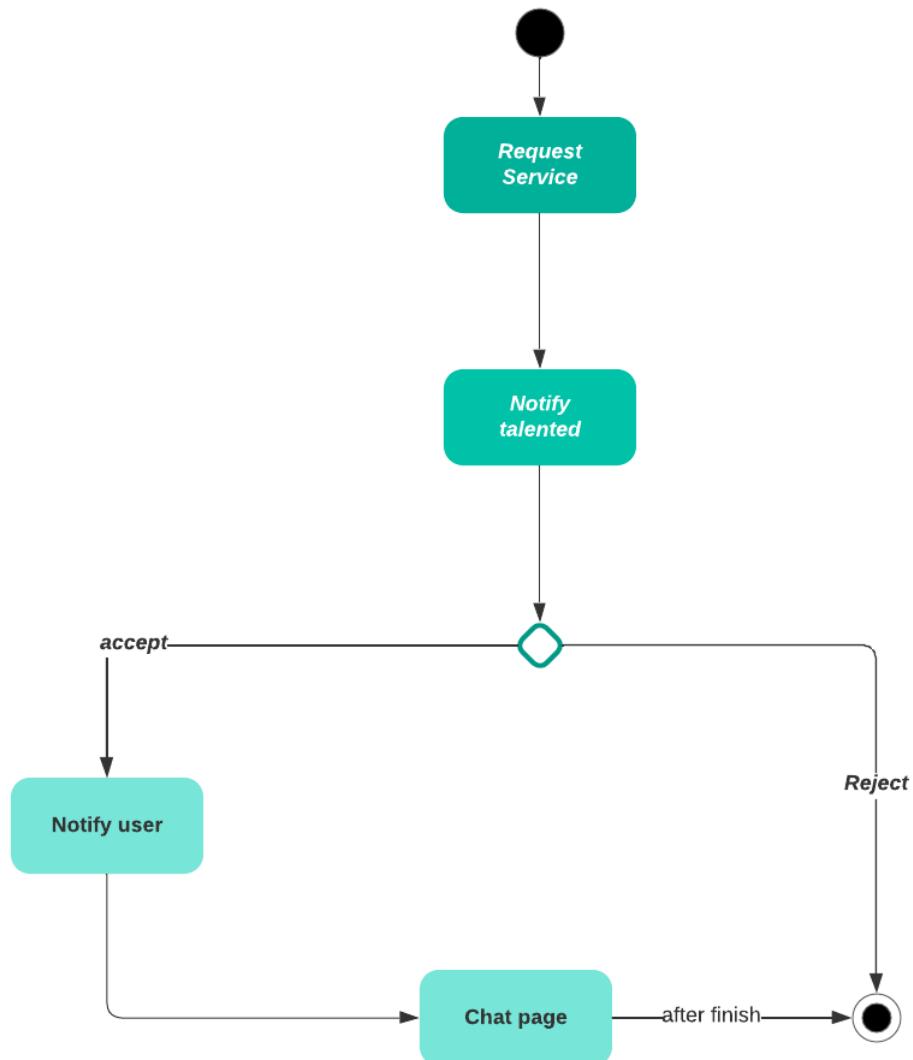
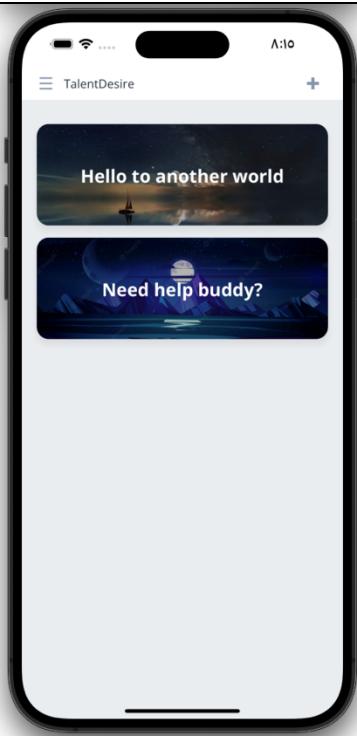


Figure 20 State Diagram for Request Service Model

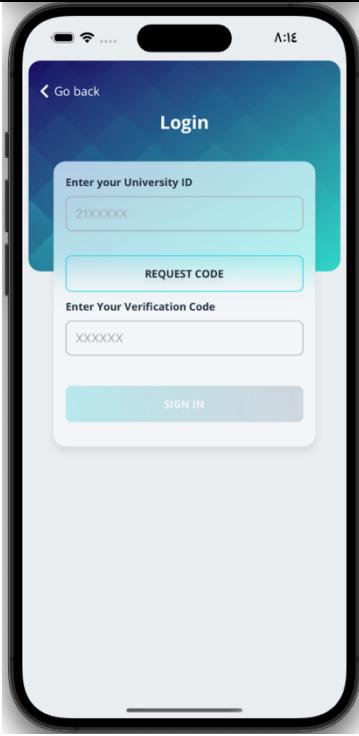
4.2 User interface design



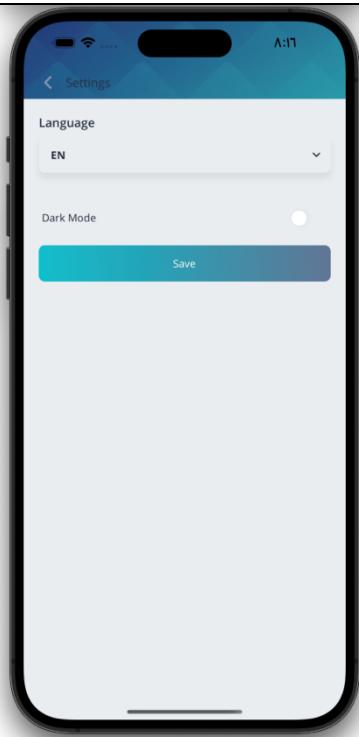
Loading Screen (Splash Screen)



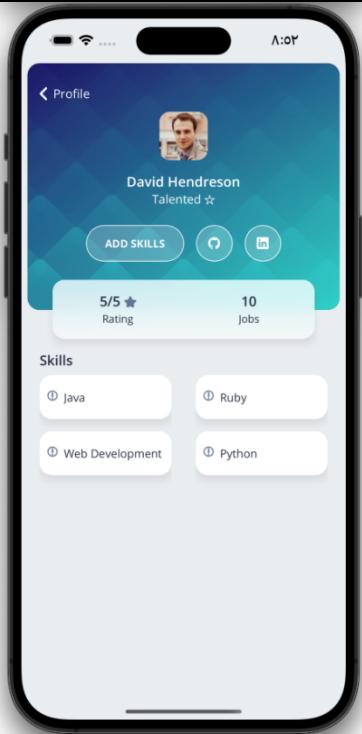
Greetings screen with access to navigation bar on the top.



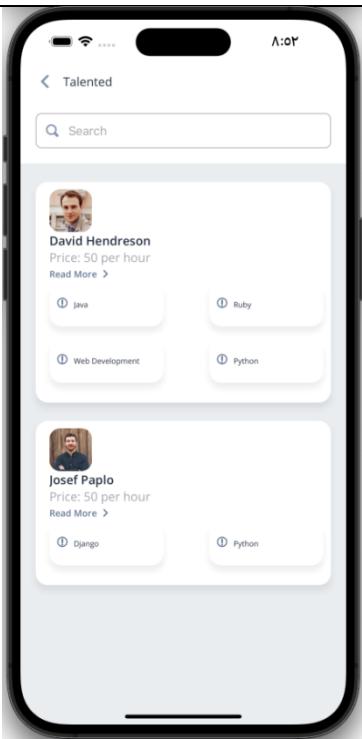
The login page allows the user to enter the system.



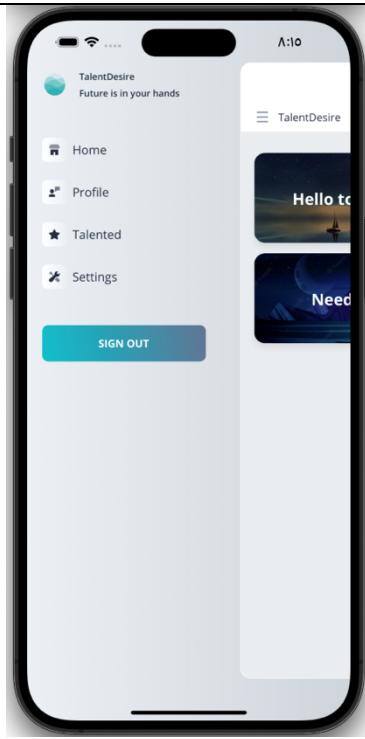
The setting page allow you to change language and dark mode.



The profile page of talented user, where he can add/remove skills and see his rating, etc..



Talented page is to display talented users and their skills.



Navigation bar that shows all pages and the login button.



The page is example of dark mode and the Arabic language.

Table 8 User Interface Design

Chapter 5: Conclusion

“In this section, we will inform you how we started and how we are going so far”

5.0 Conclusion

We had conducted everything so far, we are working on implementing this project and bring it to life, we are so excited to announce that it is already on the way to become a reality, after a long journey of searching and research and interviews with UJ students we had concluded, this is a mandatory tool for UJ students.

5.1 Future Work

We studied the market and the programming languages that is a hit now, we knew that every stunning application comes from a great implementation method, so we chose to use React Native as a cross-platform development with TypeScript Programming Language, we are mocking UJ Database using Firebase Real-time Database, we will conduct more studies and methods at the next semester.