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Revision History

Name	Date	Reason for Changes	Version
Sk Shehrin Ehsan	09/12/22	Final draft	1.0

1. Introduction

1.1 Purpose

The product described within this document is a software that helps both tutor and students look for appropriate and compatible tuition arrangements.

Dhaka is filled with students who are looking for help to bridge the gap in their academics. They feel that they need some special and extra support to achieve more in their studies. At the same time, many students and also young adults are looking for a part time or secondary source of income. However, finding the perfect tutor/ tuition may seem impossible for some due to lack of time in hectic, modern schedules.

This software aims to break down each user in terms of personality and preferences. After doing so, it will cross reference the "best fit" user and allow them to send a mail to each other.
This software aims to tackle the unfulfilled learning and comprehension issues while contributing to a better economy for the new generation.

The project's goal is to garner as many users as possible. With more users, more accurate results can be achieved when pairing tutor and student. Also with more users, revenue will increase which may help to increase the scope of the software.

1.2 Document Conventions

Requirements are pointed out with their priority, cross references and pre conditions. The features of the system are denoted in blue.

The prototype is shown as a series of screenshots of the different pages.

1.3 Intended Audience and Reading Suggestions

The following document is written for the following:

- Developers- UML diagrams and use case scenarios will assist in implementation.
- Testers- The functional and non-functional requirements will assist QA teams and testers. The document should be read from Section 1. After Section 1, Section 2 is to be read and then the UML diagrams from Section 4. Then, the requirements should be understood from Section 3. Once the requirements from Section 3 are understood, the prototype is to be studied in Section 4.

1.4 References

User Interface Design: **Figma** - https://www.figma.com/

2. Overall Description

2.1 Product Perspective

Private tuition is a blooming industry in Dhaka.
Sites such as Caretutors, bdtutors and Tutor Sheba exist to help prospective tutors find suitable students. The product mentioned in this document aims to create an easier, more intuitive and also interesting alternative. The social media like design allows users to interact easily.
The scope of the release is as demonstrated in the prototype in Section 4. However, a real time chat system as well as a points system is included in the vision of the project. The chat system will allow each type of user to speak with each other before confirmation. The points system will allow users to be rated. Lastly, "reporting users" functionality will also be implemented by next release.

Product Functions

Login

- User will be able to access their account through valid credentials.
- They will need to have completed sign up process.

Sign up

- Users will create their account with valid password and email address.
- They will need to provide valid phone number and username.

View Profile

- Users will be redirected to profile upon logging in.
- They can view their information and also edit each field (institute, available time, medium, group, location, salary, class).

Log out

- Users will be redirected to log in page upon logging out.

Home

- Users can filter their feed from this page.
- They can view jobs (for tutors) and tuitions (for students) according to the following filters: applied, requests and all.

Feed

- Users can view jobs/tuitions based on the filter they chose on home page.
- Users can apply to connect with tutors/ students.

2.2 User Classes and Characteristics

There are two User Classes:

Tutor

- They will have their own profile.
- The profile attributes will be editable.
- They will have their own feed based on their profile attributes.
- They can filter their feed based on 4 categories:
  I. All jobs (no filter applied)
  II. Job Requests
  III. Applied Jobs
  IV. Confirmed Jobs.

Student

- They will have their own profile.
- The profile attributes will be editable.
- They will have their own feed based on their profile attributes.
- They can filter their feed based on 4 categories:
  I. All Tuitions.
  II. Tuition Requests.
  III. Applied Requests.
  IV. Confirmed tuitions.

2.4 Operating Environment

For server side:
Components of the software system must operate within a Windows operating system environment.

For client side:

- Web Browsers that must be supported –
  Apple Safari 7+, Google Chrome 44+, Microsoft Internet Explorer 10+, Mozilla Firefox 40+
- Mobile Operating Systems –
  Android 6+, iOS 7+

2.5 Design and Implementation Constraints

Implementation:

- This software is to be developed in Microsoft Visual Studio, ASP.NET with C#, JSON, CSS, JavaScript, jQuery, HTML.

- Two factor authentication must exist to ensure the security of sensitive information.
- The back button must be on left side of page.
- Password must be encrypted.
- The site must have a translated version (Bangla).

Design:

- All validation errors on profile and sign up pages must be in Red and **Bold**.
- The back button must be on left side of page.
- All save and submit buttons must either be centered or placed on right.

2.6 User Documentation

User Manual

Mobile Application:

- Download the application for mobile from App Store or Play Store.
- Sign up for a new account with valid email address, password and phone number.
- Log in to account.
- Set up profile. Set/ change characteristics using "Edit" button.
- Press "save".
- Go to home. Use a filter to go the filtered feed. Can go back to profile using back button. Log out using log out button.
- Apply for job/tuition.

Web Browser:

- Go to google.com.
- Type www.pathshalatuitions.com
- Sign up for a new account with valid email address, password and phone number.
- Log in to account.
- Set up profile. Set/ change characteristics using "Edit" button.
- Press "save".
- Go to home. Use a filter to go the filtered feed. Can go back to profile using back button. Log out using log out button.
- Apply for job/tuition.

3. System Requirements

3.1 User Scenario

Use-case	Actor	User scenario
Sign Up	Tutor/Student	As a tutor/student, I want to create an account so that I can authorize myself as a user.
Log In to account	Tutor/Student	As a tutor/student I want to log in to my account so that I can use the software functionalities.
Update Profile	Tutor/Student	As a tutor/student I want to update my profile (profile picture, schedule, locations, classes and my institution as well) so that everyone can know about me.
Check home notifications	Tutor/Student	As a tutor/student I want to check home notifications so that I can check all the jobs/tuitions available, all the jobs/tuitions I applied for, all the jobs/tuitions that are confirmed and new jobs/tuitions requests.
View feed	Tutor/Student	As a tutor/student I want to view and scroll through all the jobs/tuitions in order to apply for them.
Apply for job	Tutor	As a tutor I want to apply for job so that the students can have my profile on the "all tuitions available" and choose me as their tutor.
Apply for tuition	Student	As a student I want to apply for tuitions so that the tutors can have my profile on the "all jobs available" and choose me as their student.
Confirm job	Tutor	As a tutor I want to confirm any job so that the student will know that I have chosen this job and he/she will stop looking for tutors.
Confirm Tuition	Student	As a student, I want to confirm any tuition so that the tutor will know that I have chosen this tuition and he/she will start looking for limited students.

3.2 System Features

Functional Requirements (FRs)

Login

1.1 Users will be able to login with their given username and password.
1.2 The login credentials (username and password) will be verified with database records.
1.3 If the login successful, user will be redirected to their profile.
1.4 If wrong username and/or password is entered, an error message will show saying "Incorrect username or password"
1.5 If the user does not have an account, they will be able to sign up using the "Don't have an account? Sign up." hyperlink.
1.6 If the user has forgotten their password, they will be redirected to "Account Recovery" page.

Priority Level: High
Precondition: User must have valid username and password.

Cross References: 2.1, 4.1

Forgot Password

2.1 Users will be able enter their phone number into a field.
2.2 Users will be able to enter their email address into a field.
2.3 Users will receive an email with a link to the "Change Password" page upon hitting Submit button

Priority Level: High
Precondition: User must provide correct email address that is linked to the account.

Cross References: 1.6, 3

Change Password

3.1 Users will be able enter their email address into a field.
3.2 Users will be able to enter their "New Password" and "Confirmed Password" into respective fields.
3.3 Users will be redirected to login page upon hitting "Submit" button where they can log in using their new password.

Priority Level: High
Precondition: User must provide correct email address that is linked to the account.

Cross References: 1.1

Signup

4.1 Users will be given the option to choose between having a "Teacher" or a "Student" account.

4.2 User will be able to enter their name. No special characters allowed.
4.3 User will be able to enter their phone number. Only numerical characters allowed.
4.4 User will be able to enter their email address.
4.5 Users will be able to able to set a password and then confirm it.
4.6 User will press "Sign up" button and be redirected to Login page. The data will be sent to database.
4.7 If any field is blank and "Sign up" button is used, error message "Please fill the blanks" will appear beside that field.
4.8 If "Password" and "Confirm Password" are not identical, error message "Passwords not matched" will show.

Priority Level: High
Precondition: None

Cross References: 1.1

Teacher's Profile

5.1 Users will be able to view and "Edit" their institute of education
5.2 Users will be able to view and "Edit" their "Available Time"
5.3 Users will be able to view and "Edit" their preferred "Medium" of education.
5.4 Users will be able to view and "Edit" their academic "group"
5.5 Users will be able to view and "Edit" the "Location" that they can offer.
5.6 Users will be able to view and "Edit" their "salary preference"
5.7 Users will be able to view and "Edit" their "class range preference"
5.8 If any user has used at least one of the "Edit" options, the save button will appear. Upon using the save button, the information will be updated in the database.
5.9 Users can log out from the app by pressing the "logout" button. They will then be redirected to the login page.
5.10 Users can go to the Home page using the "Home" button.

Priority Level: High
Precondition: User must be logged in.

Cross References: 8.1, 1.1

Student's Profile

6.1 Users will be able to view and "Edit" their institute of education
6.2 Users will be able to view and "Edit" their "Preferred Time"
6.3 Users will be able to view and "Edit" their "Medium" of education.
6.4 Users will be able to view and "Edit" their academic "group"
6.5 Users will be able to view and "Edit" the "Location" that they need.
6.6 Users will be able to view and "Edit" their "Salary Offer"

6.7 Users will be able to view and "Edit" their "Class range"
6.8 If any user has used at least one of the "Edit" options, the save button will appear. Upon using the save button, the information will be updated in the database.
6.9 Users can log out from the app by pressing the "logout" button. They will then be redirected to the login page.
6.10 Users can go to the Home page using the "Home" button.

Priority Level: High
Precondition: User must be logged in.

Cross References: 9.1, 1.1

Tutor's Home

8.1 Users will be able to view a Feed which will be filtered according to the filter buttons:
- ❖ All jobs (corresponding to preferences as set during "Sign up" or "Profile Edit".
- ❖ All applied jobs
- ❖ All confirmed jobs
- ❖ All job requests

8.2 Users will be able to logout.

Priority Level: High
Precondition: None.

Cross References: 11.1, 4.1

Student's Home

9.1 Users will be able to view a Feed which will be fitted according to the following filter buttons:
- ❖ All tuitions
- ❖ Applied Tuitions
- ❖ Confirmed Tuitions
- ❖ Tuition Requests

9.2 Users will be able to logout.

Priority Level: High
Precondition: None

Cross References: 10.1, 4.1

Student's Feed

10.1 Student users will be able to view a feed with cross referenced tutor users who have same preferences.

10.2 Upon clicking a user's name on the feed, the user's preferences (class, group, medium, location, available time and salary preference will be shown)
10.3 User will be able to "Apply" after viewing details of the Tutor. This in turn will send the current user's information to the tutor's "Job Requests" feed.
10.4 User can use the "Profile" button to go to their Profile.
10.5 User will be able to logout.

Priority Level: High
Precondition: User must be logged in.

Tutor's Feed

11.1 Tutor users will be able to view a feed with cross referenced student users who have same preferences.
11.2 Upon clicking a user's name on the feed, the user's preferences (class, group, medium, location, available time and salary preference will be shown)
11.3 User will be able to "Apply" after viewing details of the student. This in turn will send the current user's information to the student's "Requests" feed.
11.4 User can use the "Profile" button to go to their Profile.
11.5 User will be able to logout.

Priority Level: High
Precondition: User must be logged in.

3.3 Non-Functional/Quality Requirements

QA1: Performance: A trained user shall be able to create a profile within 3 minutes. Search bar results (up to 8 items) will be available within 1 minute.

Priority Level: Medium
Precondition: Application is run on supported OS

QA2: Safety: A past copy of the database, which was backed up to the archives, is restored upon extensive damage to the database due to any attack or accident.

Priority Level: High
Precondition: Back up is uploaded after regular time periods

QA3: Reliability: It is ensured that the features of the software lead to the correct functionalities. It is also ensured that the software is available throughout the day.

Priority Level: High
Precondition: None

QA4: Usability: The software contains user friendly aesthetics making for a satisfying and pleasing experience. The features are present right where they are expected making the software very intuitional.

Priority Level: Medium
Precondition: None

Q5: Scalability: The software is capable of handling increased load (number of requests and applications) without decreasing its performance.

Priority Level: Medium
Precondition: Application is run on supported OS.

3.4 Project Requirements

Tools:

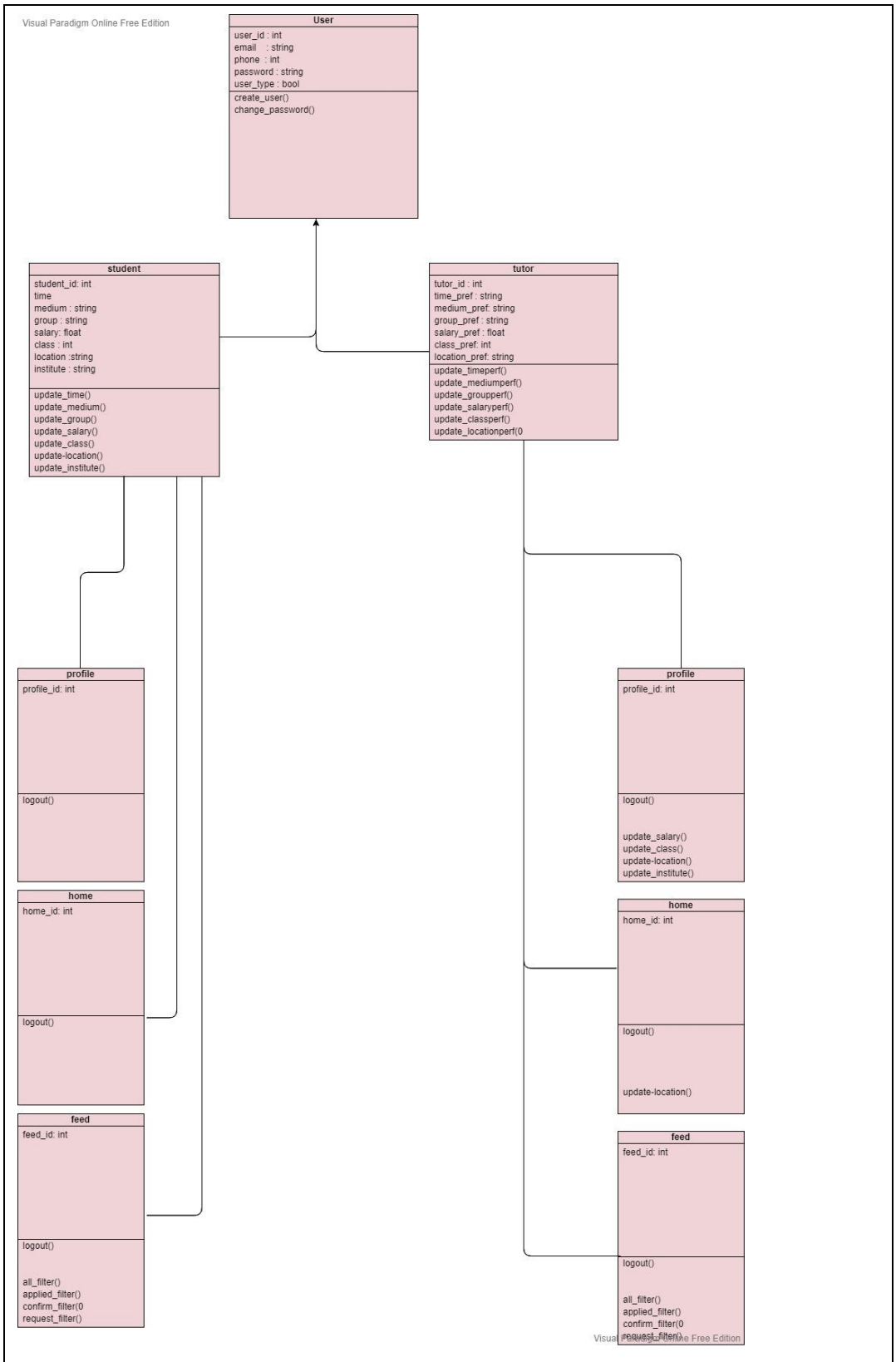
- The system developer needs selenium tools in perform testing activities.
- The designer needs Figma to create more samples of the prototype.
- The developers require computers with Windows OS.

3.5 Data Dictionary

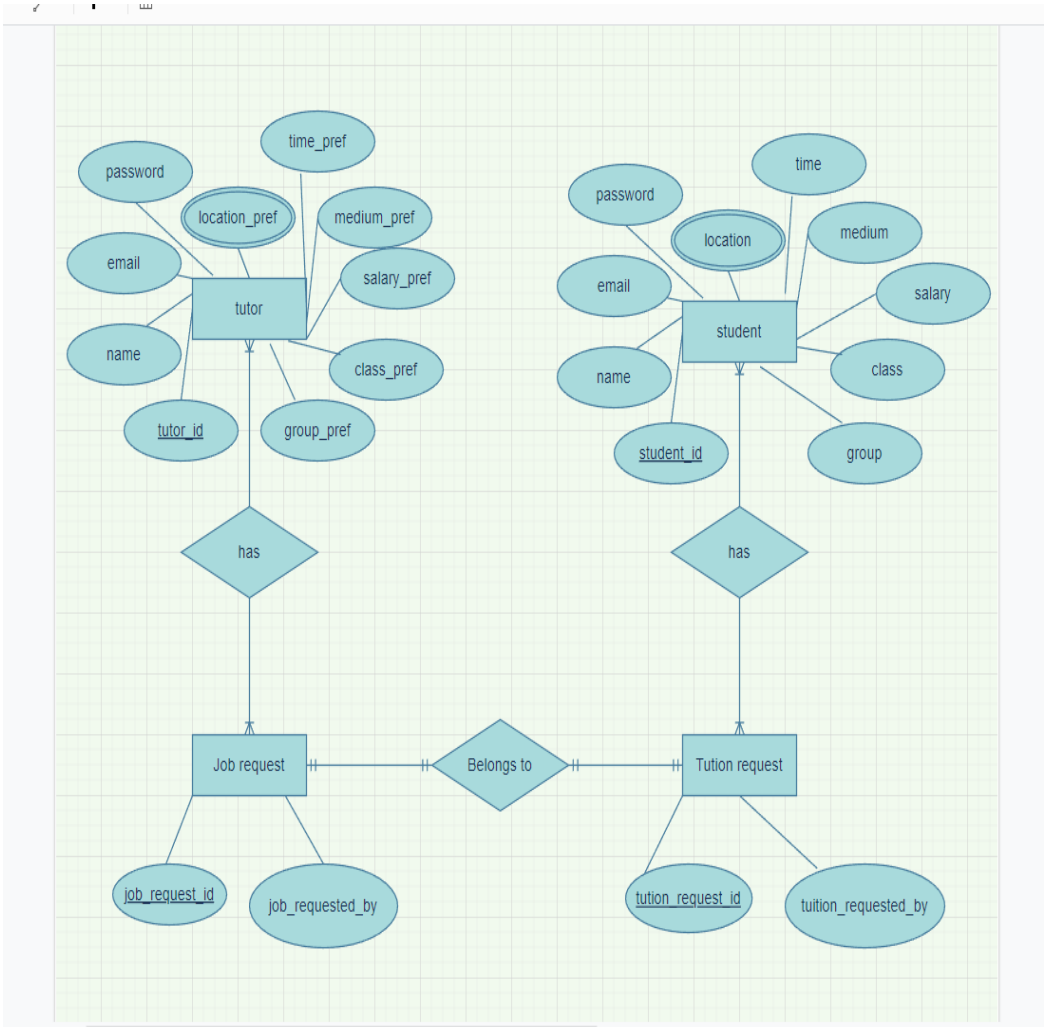
Entity	Attribute	Validation	Type	Key
student	studentID		INT(5)	Primary
student	name	no special characters	VARCHAR(100)	
student	email	REQUIRED	VARCHAR(100)	
student	password	REQUIRED	VARCHAR(100)	
student	time	REQUIRED	INT(5)	
student	medium	REQUIRED	VARCHAR(100)	
student	location	REQUIRED	VARCHAR(100)	
student	salary	REQUIRED	FLOAT(10)	
student	class	REQUIRED	INT(5	
student	group	REQUIRED	VARCHAR(100)	
tutor	tutorID		INT(5)	
tutor	name	no special characters	VARCHAR(100)	
tutor	tutorID	REQUIRED	INT(5)	Primary
tutor	email	REQUIRED	VARCHAR(100)	
tutor	password	REQUIRED	VARCHAR(100)	
tutor	time_pref	REQUIRED	INT(5)	
tutor	medium_pref	REQUIRED	VARCHAR(100)	
tutor	location_pref	REQUIRED	VARCHAR(100)	
tutor	salary_pref	REQUIRED	FLOAT(10)	
tutor	class_pref	REQUIRED	INT(5)	
tutor	group_pref	REQUIRED	VARCHAR(100)	
job_request	job_request_ID		INT(5)	
job_request	job_request_BY		INT(5)	Foreign
tuition_request	tuition_request_ID		INT(5)	
tuition_request	tuition_request_BY		INT(5)	Foreign

4. Interface Requirements

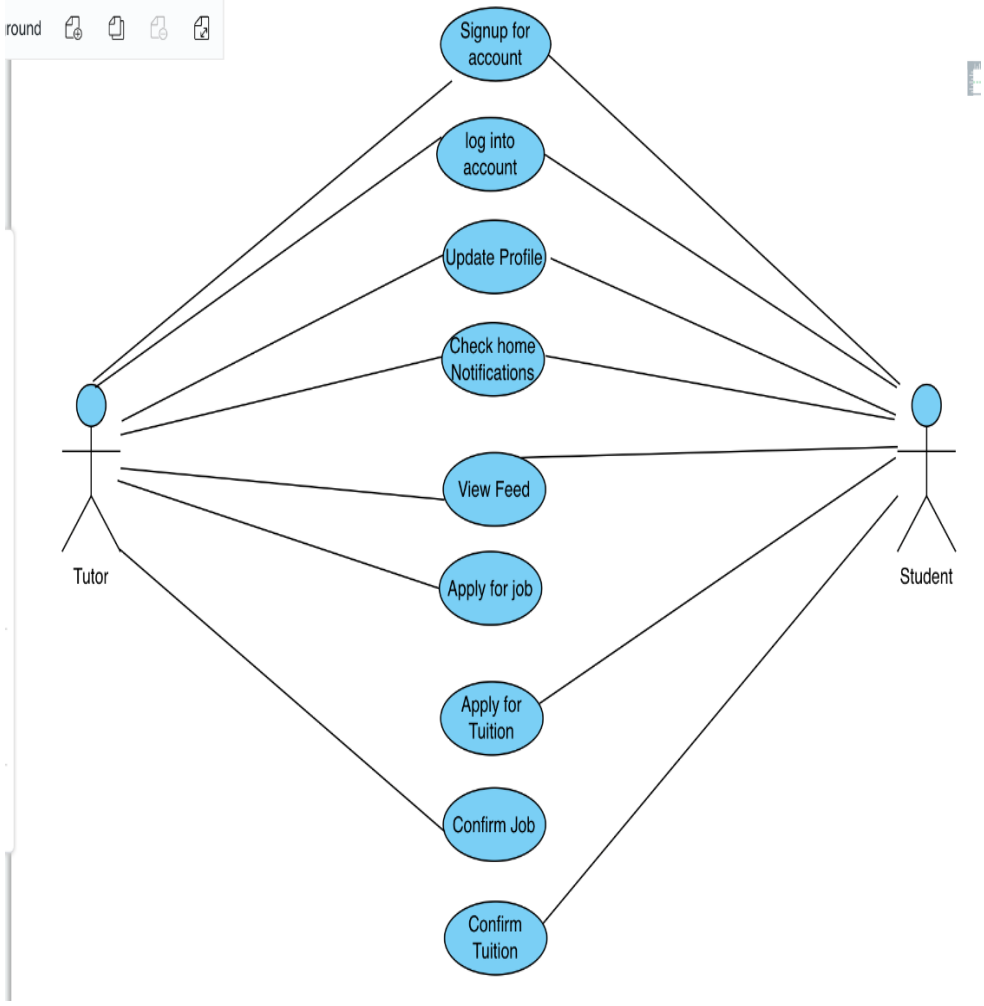
4.1 UML



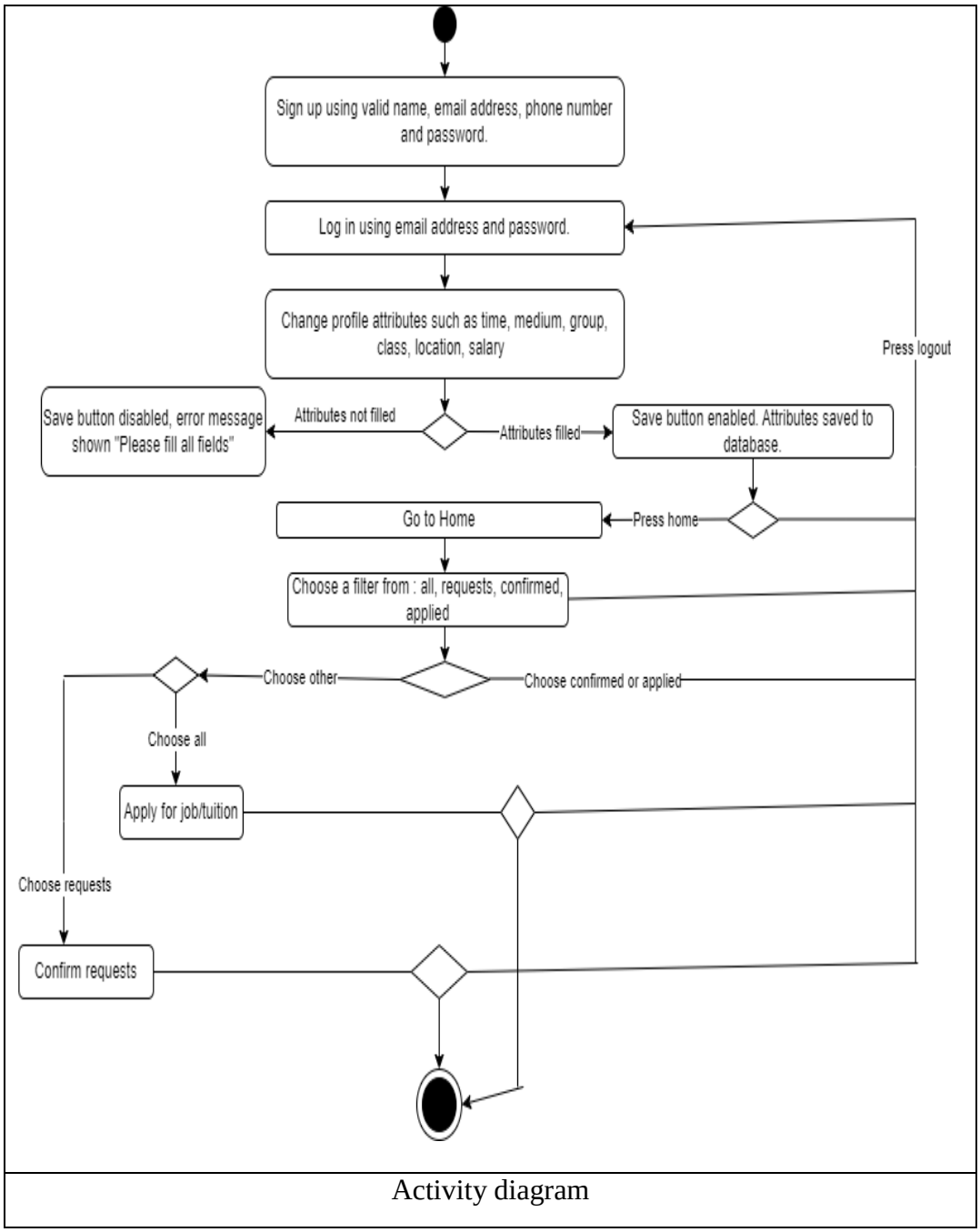
Class diagram



Entity Relationship diagram

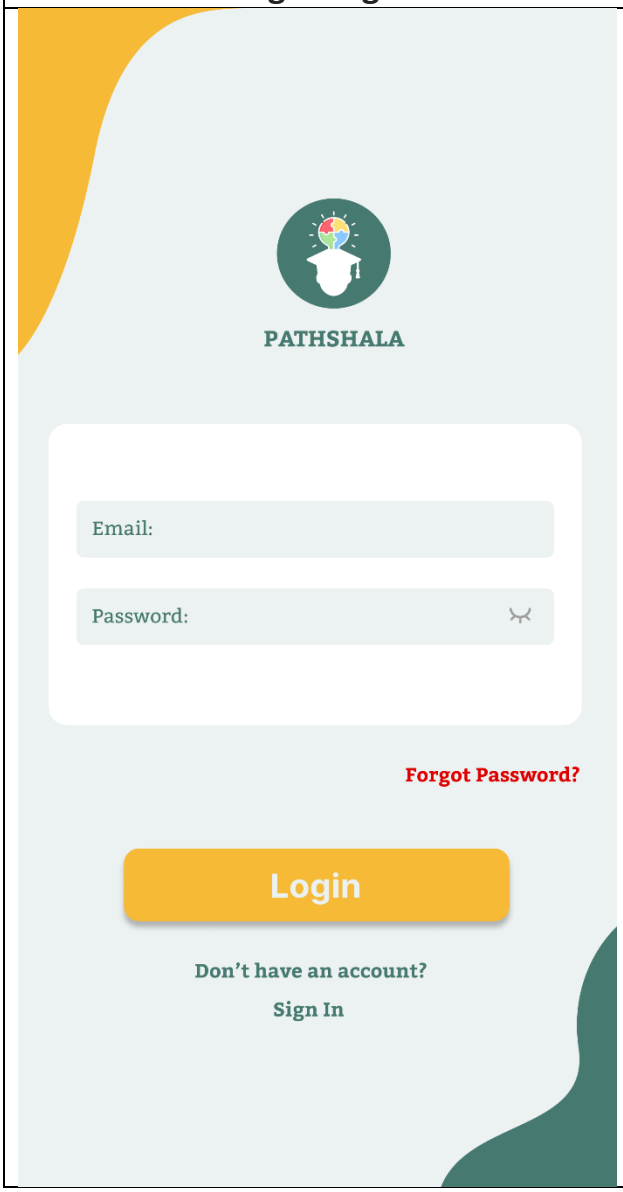
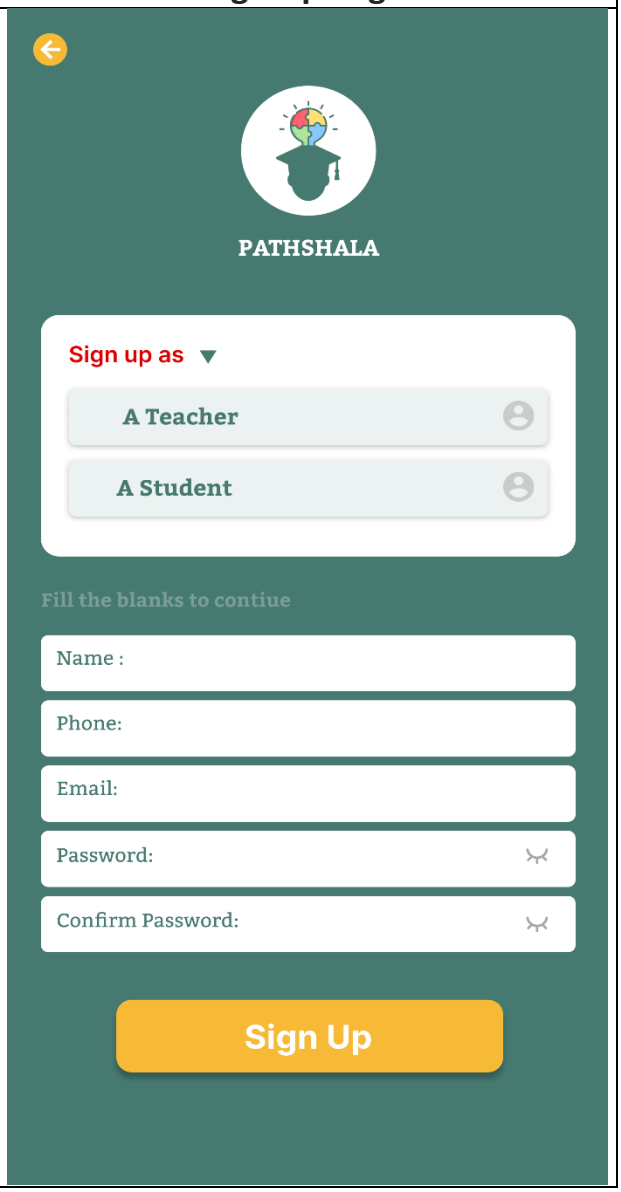


Use Case diagram

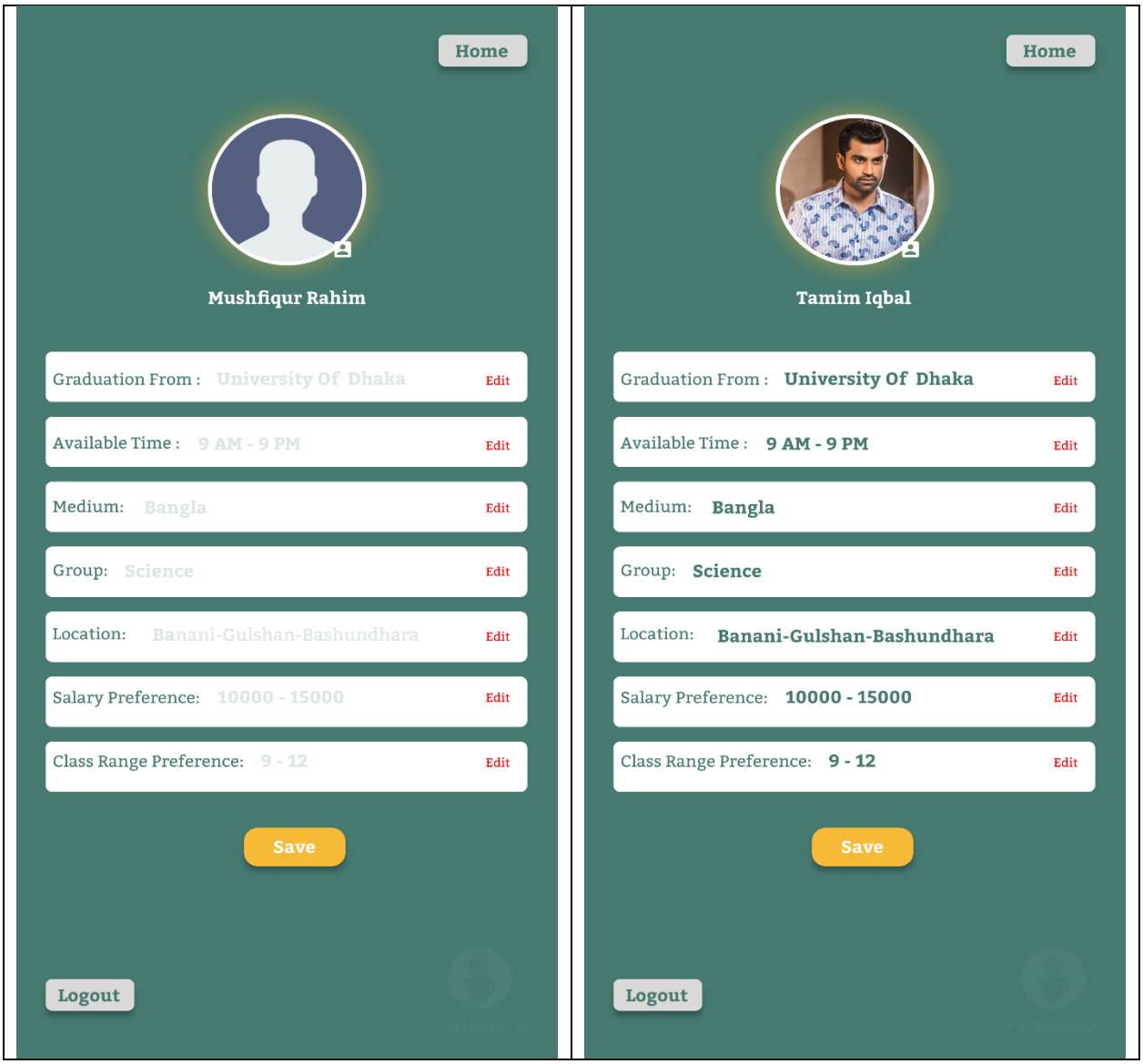


Activity diagram

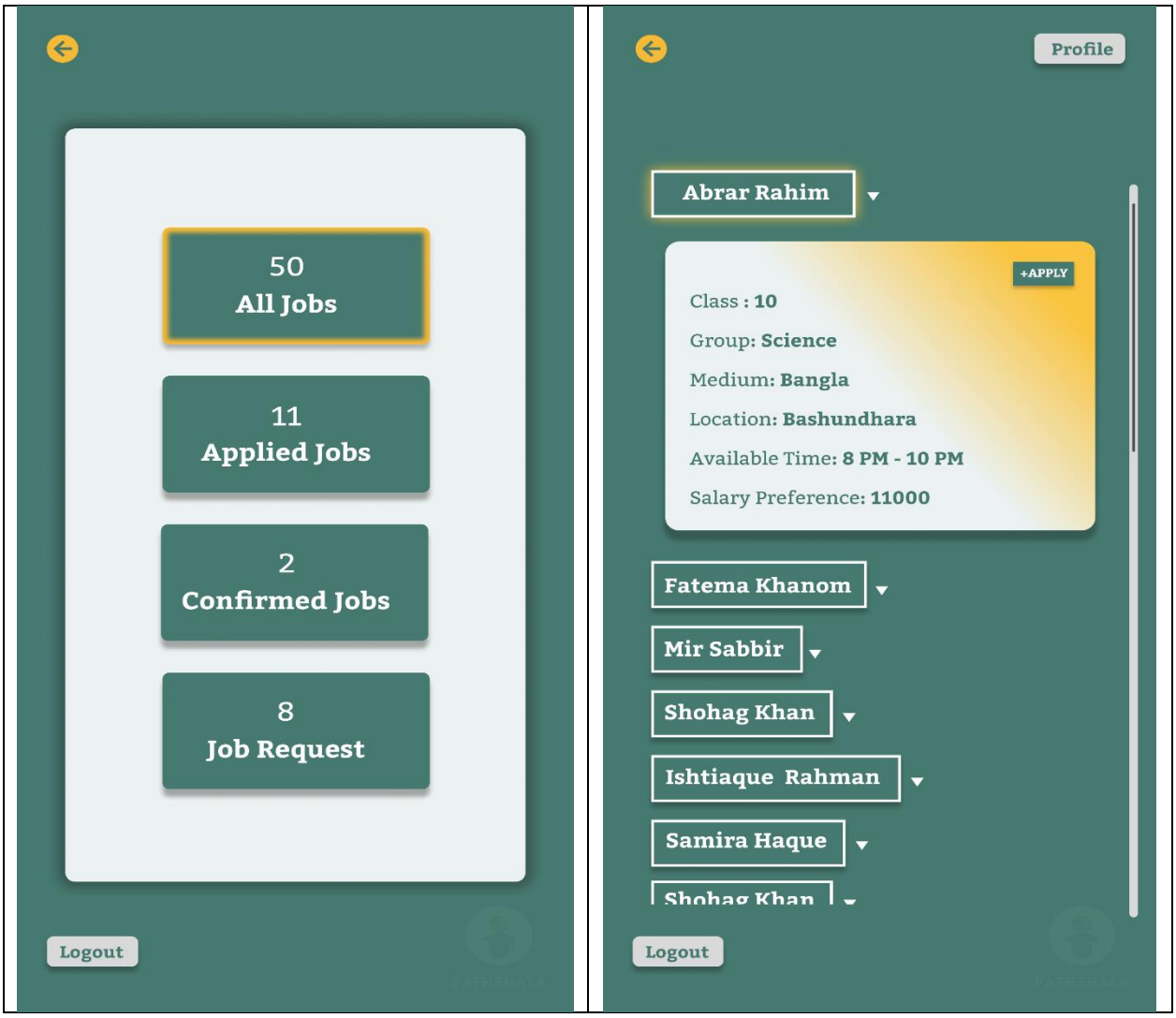
4.2 UI Design Specification

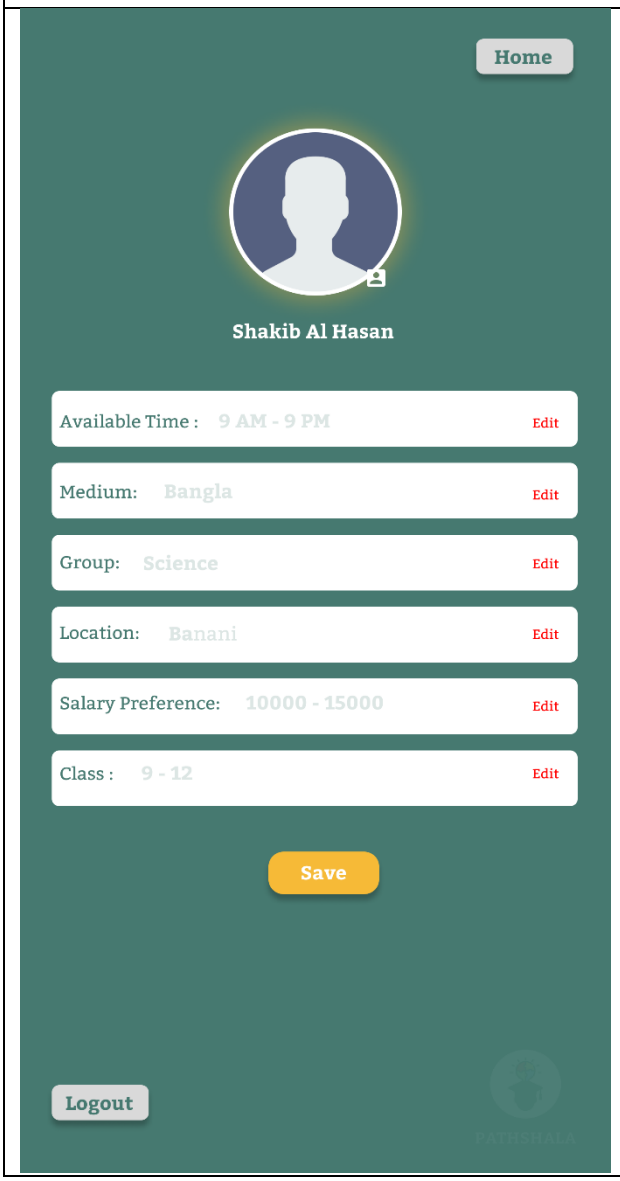
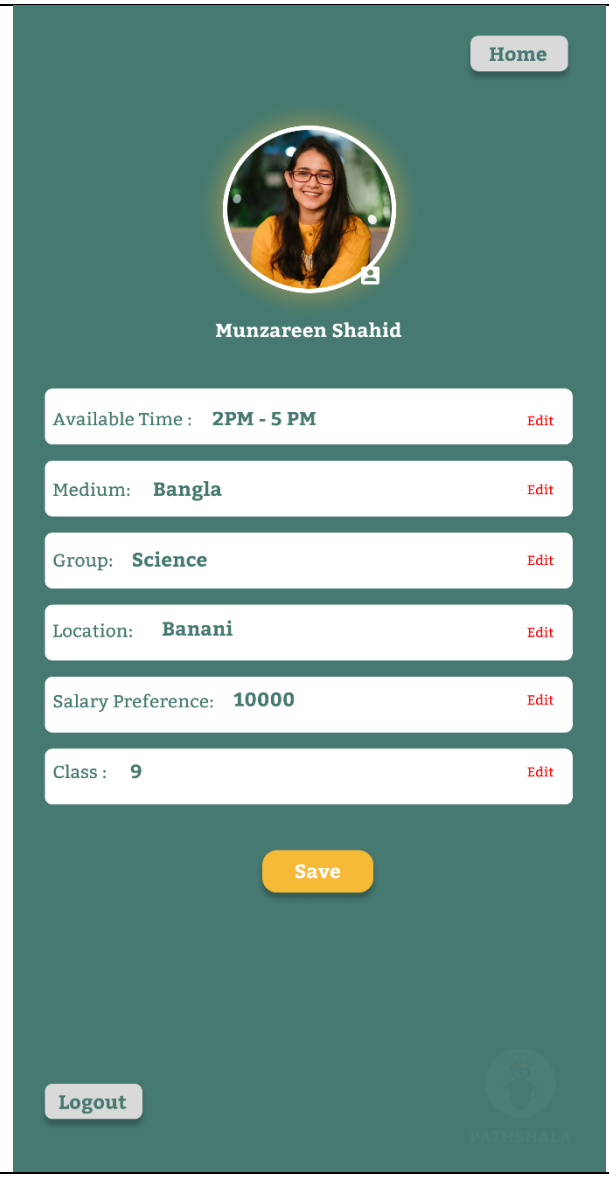
Login Page	Sign Up Page
	

New Tutor Profile	Tutor Profile

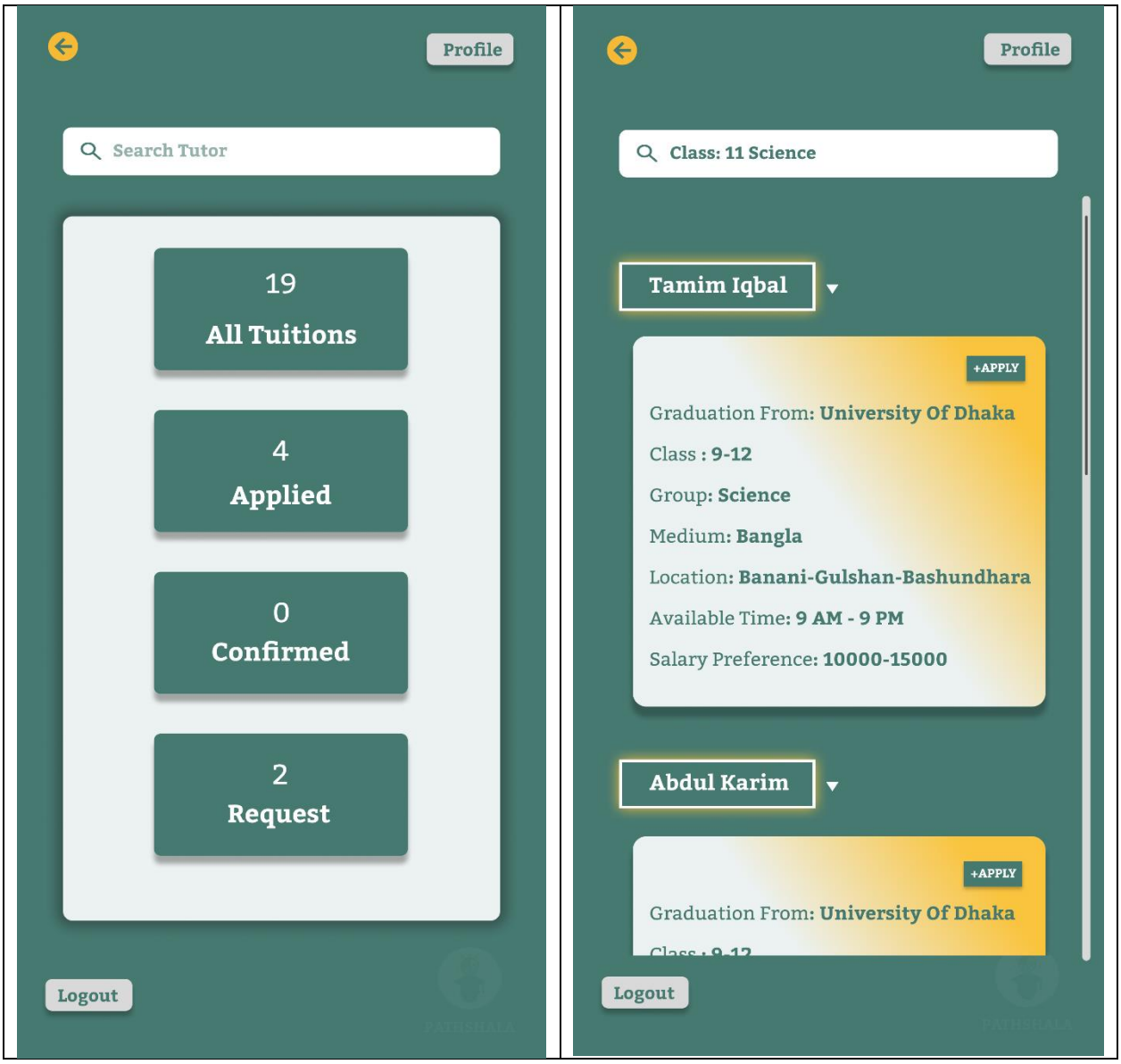


Tutor-Home	Tutor-Feed


50
All Jobs
11
Applied Jobs
2
Confirmed Jobs
8
Job Request
Logout
Profile
Abrar Rahim
+APPLY
Class : 10
Group: Science
Medium: Bangla
Location: Bashundhara
Available Time: 8 PM - 10 PM
Salary Preference: 11000
Fatema Khanom
Mir Sabbir
Shohag Khan
Ishtiaque Rahman
Samira Haque
Logout

New Student Profile	Student Profile
	

Student-Home	Student-Feed


Profile
Search Tutor
19
All Tuitions
4
Applied
0
Confirmed
2
Request
Logout
Profile
Class: 11 Science
Tamim Iqbal
+APPLY
Graduation From: University Of Dhaka
Class : 9-12
Group: Science
Medium: Bangla
Location: Banani-Gulshan-Bashundhara
Available Time: 9 AM - 9 PM
Salary Preference: 10000-15000
Abdul Karim
+APPLY
Graduation From: University Of Dhaka
Logout