American International University-Bangladesh (AIUB)

Department of Computer Science

Faculty of Science & Technology (FST)

Online Matrimony Site

A Software Engineering Project Submitted
By

Serial Number	Student Name	Student ID
1	Nayeema Hoque	20-43737-2
2	Soily Ghosh Sneha	20-43702-2
3	Zerin Hasan Sahosh	20-43744-2

Summer 2021-2022	Section: E	Group: 01

Submitted To

Farzana Bente Alam
Lecturer, CS
American International University-Bangladesh

Submission Date: 16/08/2022

1. PROJECT PROPOSAL

- **Background to the problem**

  - The technical scope involved in developing and implementing this matrimonial project can let an individual to find their potential matches for marriage according to their priorities set. This project allows us to get the thought of online marriage and make customers put their trust in online-based platforms for marriage. This application allows browsing profiles of those who have registered themselves on this site as well as those who have not registered yet, they can have an overview of the site. This allows individuals to give their information such as Name, Gender, Religion, Caste, Country, Marital status, Current salary, Occupation etc. This application also allows uploading photos of the individual registering through verification. The person looking for marriage can register and search for a profile that matches their requirements. They can also search by their own preferences like gender, age, religion, caste, marital status, height etc. and allows individuals to view the verified information which today is at the highest priority. When an individual selects a profile which matches his or her requirements, it will also show the opposite person's interests and they can communicate through the application. Thus, this application allows individuals to let others view its profile and allows it to view other's profiles depending on the priority set.
  - People have their individual choices and own personal reasons for their tastes but especially in our country many people who are not in a marital relationship get bullied for various reasons. So, this project will help many individuals to find their own matches considering their situations.

- **Solution to the problem**

  - **Project objective:** The main objective of matrimonial site is to provide grooms and brides with excellent matchmaking experience by exploring the opportunities to find out their partners by their own preferences. Keeping our objective in mind we want to create a reputed online platform that touch the souls of people all over the world. Also, as this concept is not so familiar in our country, we want people to trust this site and get accustomed. Since internet is a pivot for modern business, our project which is based on internet paves a path for modernization in trade
  - **The problem, solution, necessity of using this application:** There are few matrimonial sites in our country because it is not widely used here. But the thing is conventional way of marriage more specifically finding partners is actually tough in considering different situations. Sometimes people get harassed, the matchmaker could not fulfill preferences of both sides and some unwanted situations can happen. Since our world is getting modernized and almost everything is now online based so we thought of making a trustable matrimonial site which people can rely on. Now as there is already some application based on this problem our project is going to be in category B. So here the question arise why we want to develop this kind of site again. The answer is a huge part of our population don't trust online based platforms and 90% of them will say it is not safe. So, our target is to make an online matrimonial platform which is strongly secured, requires verification of the users, safe and user friendly.

- **The target group of users:** There will be two types of users. The admins and the customers. Customers who are having issues finding their partners or they don't have enough time to follow the conventional way they can easily register and find by their own match as well as can communicate. They can see the CV and other verified information along with the photos of the other users. It will save their time as well. Admins will maintain the data of the users, activity of the users and if they find any suspicious things going on they can take actions.

2. REQUIREMENT ANALYSIS

Functional Requirements:

- Visitor Page:
  - Select matrimony profile for
  - Enter name
  - Enter mobile number
  - Register free

- Software Login Page:
  - The login page should have two options, login and sign up. It should allow users to login with their given username and password.
  - The username and password should be verified with the database records.
  - If the login is successful, the homepage of the user account will be displayed.
  - If the inserted username and password is wrong, the random verification code will be generated and sent it to the user email address by the system to retry login.
  - If the number of login attempt exceed its limit which is 3 times, the system will show "Forget Password?"
  - If anyone click in the forget password option, a page will show, and the user must write his or her mail address. A verification code will send to user's mail.
  - When User put the verification code in the required place, it will allow user to change the password. Then the user will auto logged in and the home page will come.
  - If the user is new, they will click for sign up option and it will take the user to register page.

- Registration Page:
  - User registration
    - Select gender
    - Choose country code
    - Mobile number
    - Email address
  - Click to submit button
    - Submit code (sent to email or phone number)

        - Verify
    - Successfully create profile
    - Basic information form fill-up
        - Name
        - Date of birth
        - Height
        - Weight
        - Religion
        - Marital status
        - Interests
        - NID number
        - Picture of NID and birth certificate
        - Photo
        - Education and carrier
            - Higher education
            - Occupation
            - ID of working Institution
            - Income Status
        - Location
        - Details
            - Country
            - City
            - Area
            - Permanent address
        - Family Details
            - Fathers name
            - Mothers name
            - Siblings
    - View profile
        - Short biography

- Home page
    - Menu bar
        - Home
        - Profile view
        - Show biodata
        - Search
        - History
        - Report a problem
        - Help center
        - Safety center
        - Privacy policy
        - Logout
    - Profile

- Search option
    - When a user wants to search profiles, they can search by names.
    - Also, they can search by their requirements. For that they need to choose several options like
        - Search by age

- Search by Height
- Search by Country
- Search by skin color
- Search by occupation

- Based on users searching requirements system will show a list of their match.
- User can visit those profile and see their basic information.

- Communication

- If the user finds their match they can communicate through this application. There will be 3 types of communication system
  - Call
  - Massage
  - Video call

- Logout

- Users can logout any time they want.

- Admin module

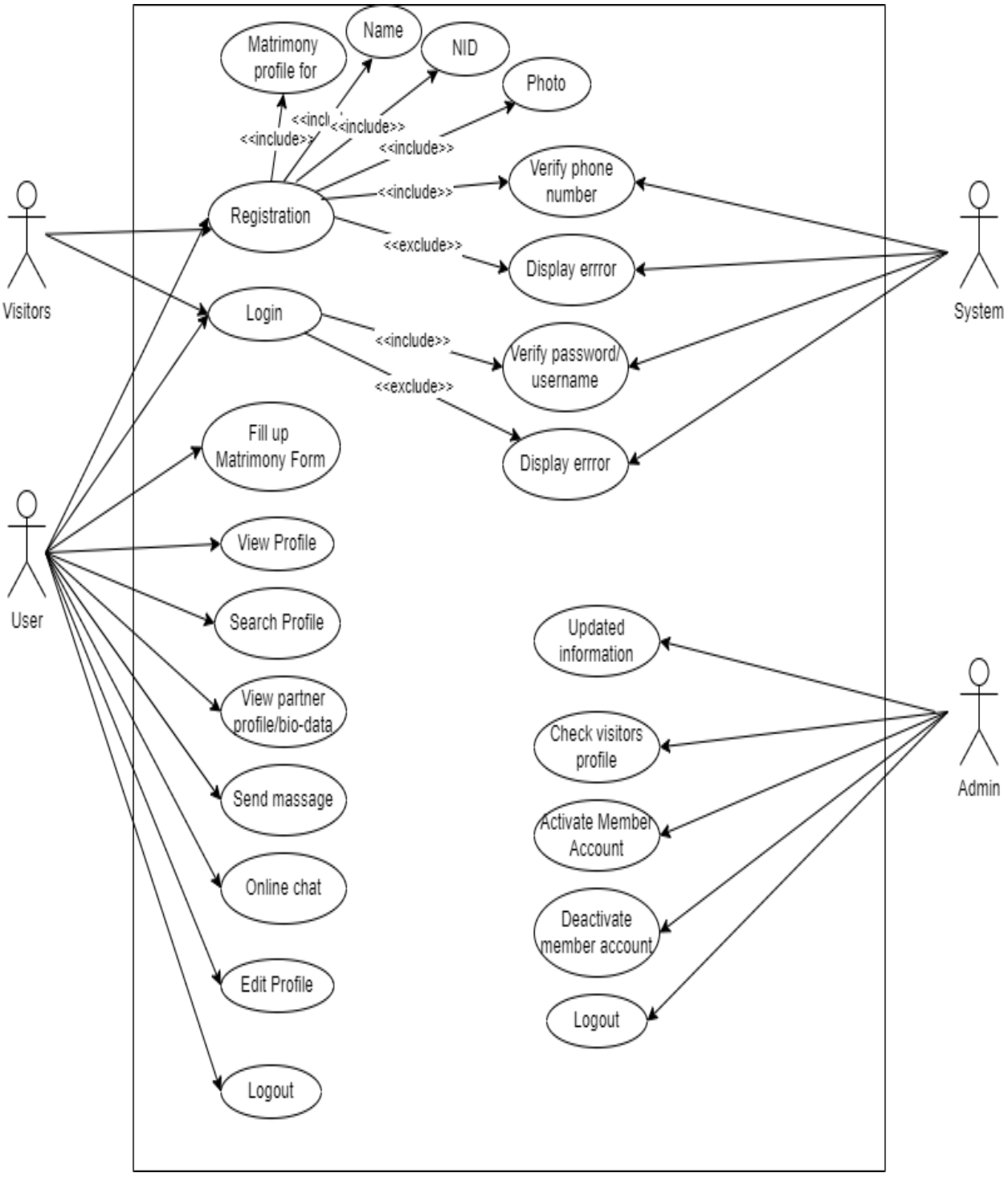
- The main functions of admin are
  - Login
  - Verify members
  - Report of all members
  - User management
  - Logout

Non-functional Requirements:

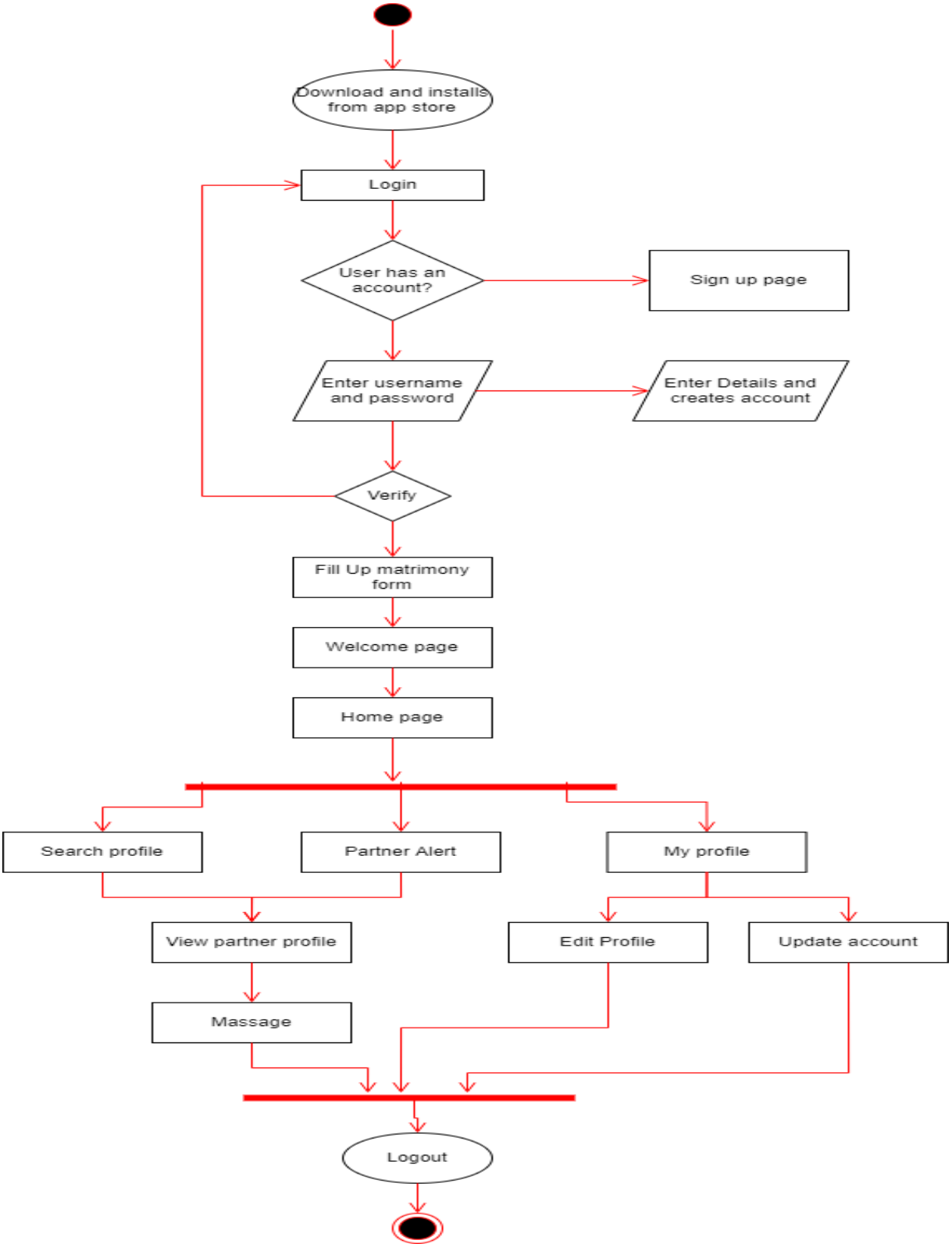
- Performance and scalability: The system returns the results fast and with higher workloads the performance will change accordingly.
- Reliability, availability: Reliability specifies our system would run without a failure for a given period under predefined conditions. Availability describes our system is accessible for a user at a given point in time.
- Security: The system is safe with protected data against attacks.
- Usability: The system is very user friendly.

3. System Design Specification

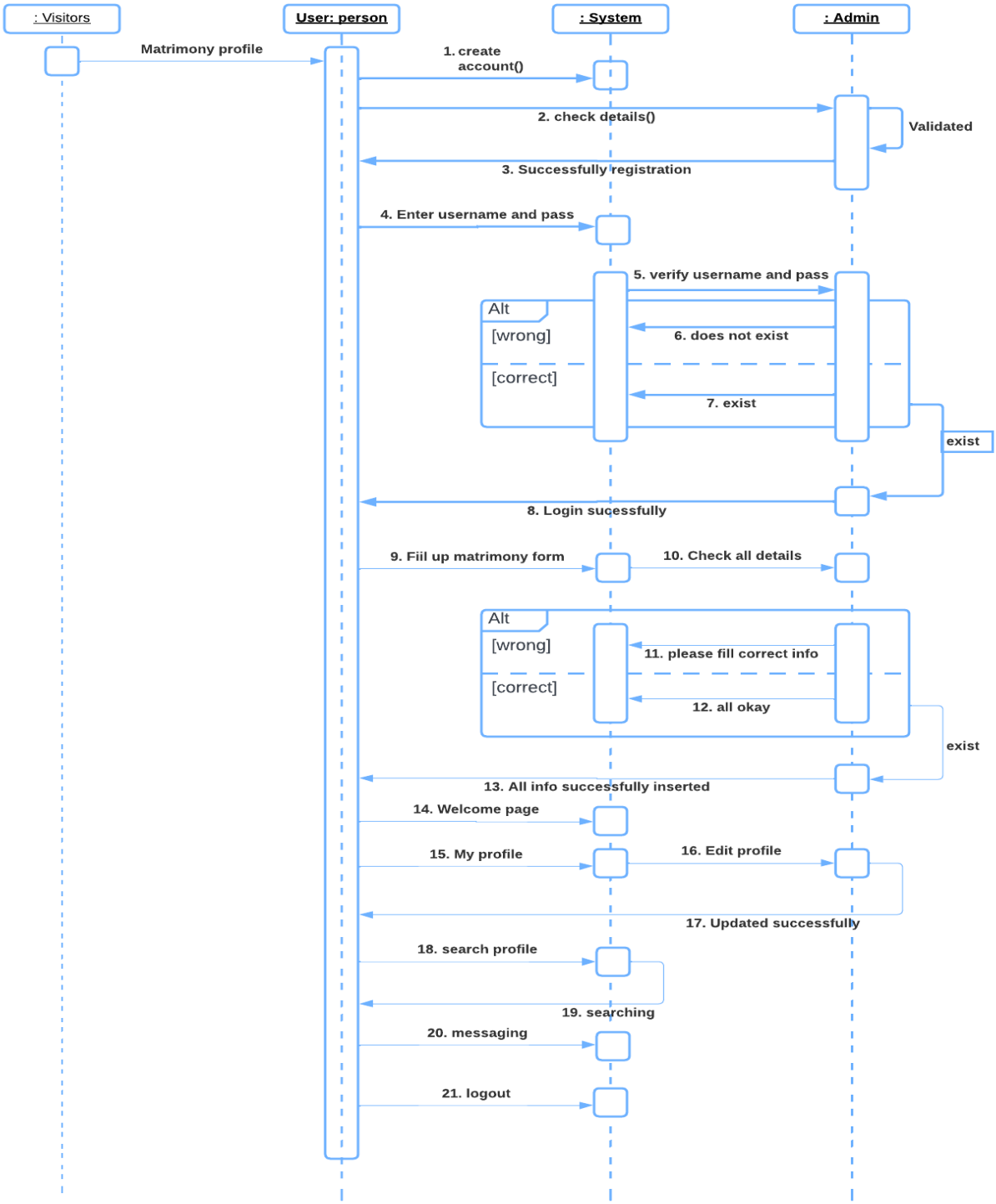
- **Use case Diagram:**



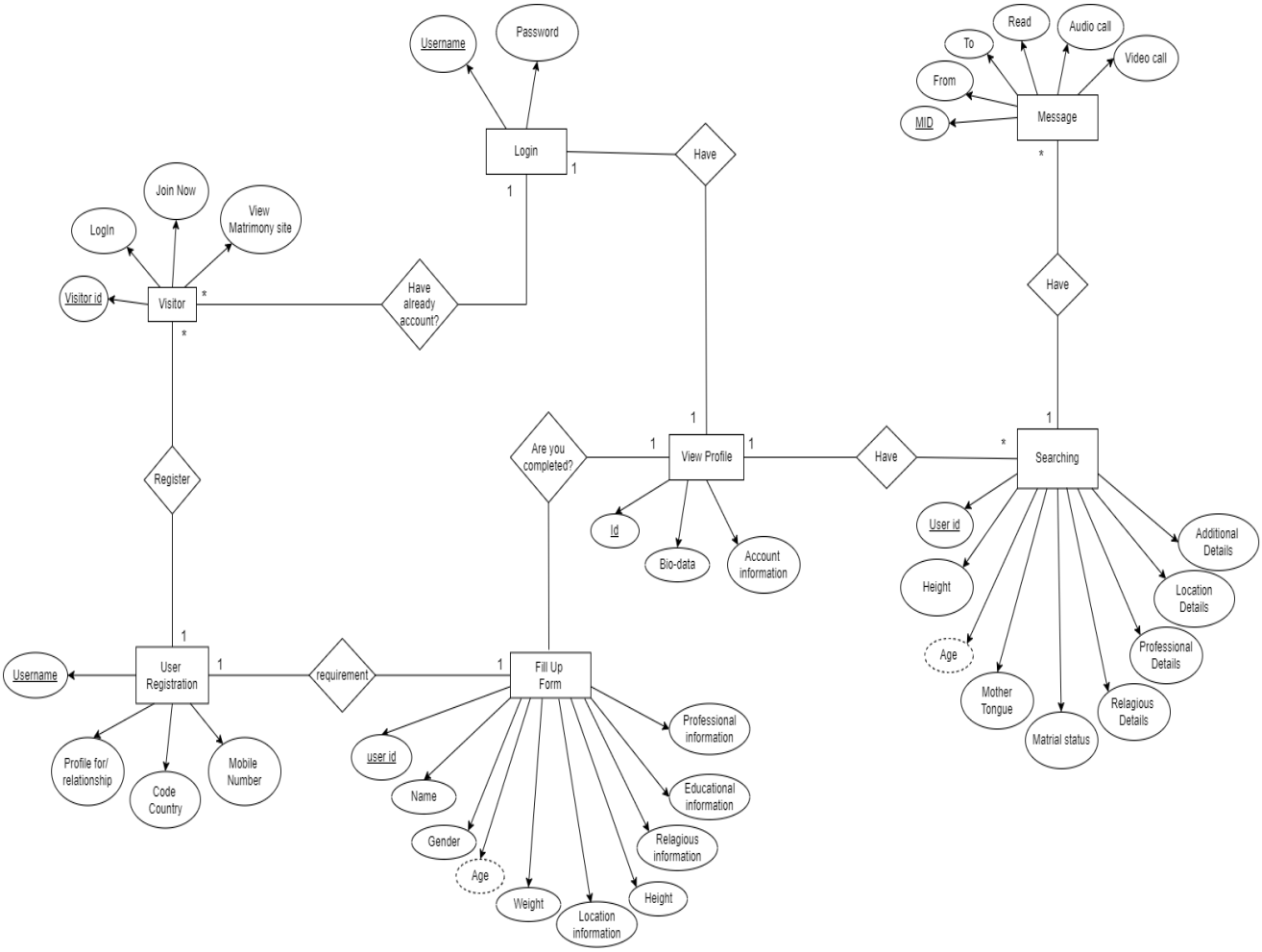
- **Activity Diagram:**



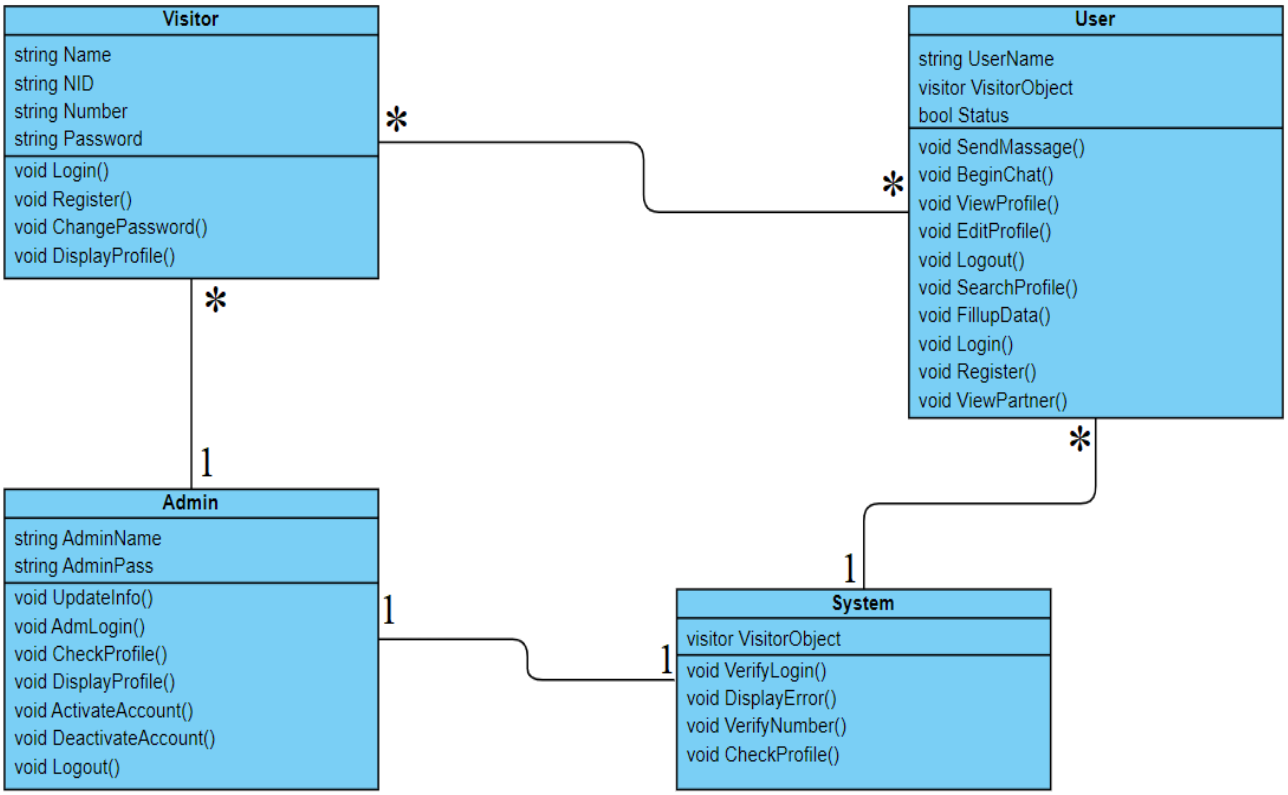
- **Sequence Diagram:**



- **ER Diagram:**


Username
Password
Login
Have
1
1
1
Join Now
View Matrimony site
LogIn
Visitor id
Visitor
*
*
Have already account?
Read
Audio call
To
Video call
From
MID
Message
*
Have
1
Register
Are you completed?
1
1
View Profile
1
Have
*
Searching
1
Id
Bio-data
Account information
User id
Additional Details
Height
Location Details
Age
Professional Details
Mother Tongue
Relagious Details
Matrial status
1
Username
User Registration
1
requirement
1
Fill Up Form
Profile for/ relationship
Code Country
Mobile Number
user id
Professional information
Name
Educational information
Gender
Relagious information
Age
Weight
Location information
Height

- **Class Diagram:**



4. Selection of Process Model

After studying several Software Engineering process model, we have decided to use SCRUM. We think this is appropriate for our proposed system.

Among all other method to develop our proposed software we choose SCRUM because:

- SCRUM has 3 phases, pre-game, development, and post-game. In pre-game phase it has sub phases like planning and architecture. As our proposed system is a matrimony site and it goes to category B, we preferred to have a product backlog list where all the currently known requirements are listed as well as the requirements are prioritized, and effort needed for the implementation is estimated. The architecture phase work based on the current items in the product backlog list. In case if we need any enhancement to the existing system, we can do this in this phase.
- Next, in the development phase we use sprint in this process where traditional phases of software development like requirements, analysis, design, evolution and delivery happens.
- Lastly, the post-game phase entered when an agreement has been made such as the requirements are completed. This phase does the work of integration, system testing and documentation. After these our project is going to be ready for release.
- During the processing SCRUM has several meetings which helps team to complete project deliverables quickly and efficiently.
- As our matrimony site is a quite long project SCRUM divided it into easily manageable sprints.
- Here developments are coded and tasted during sprint review.
- For fast moving development project SCRUM works well.
- Moreover, SCRUM ensures effective use of time and money.

Project Role Identification and Responsibilities:

- **SCRUM Master**
  Scrum Master interacts with the project team as well as with the customer and the management during the project. He is responsible for ensuring that the project is carried through according to the practices, values, and rules of Scrum and that it progresses as planned.

- **Product Owner**
  Product Owner is officially responsible for the project, managing, controlling, and making visible the Product Backlog list.

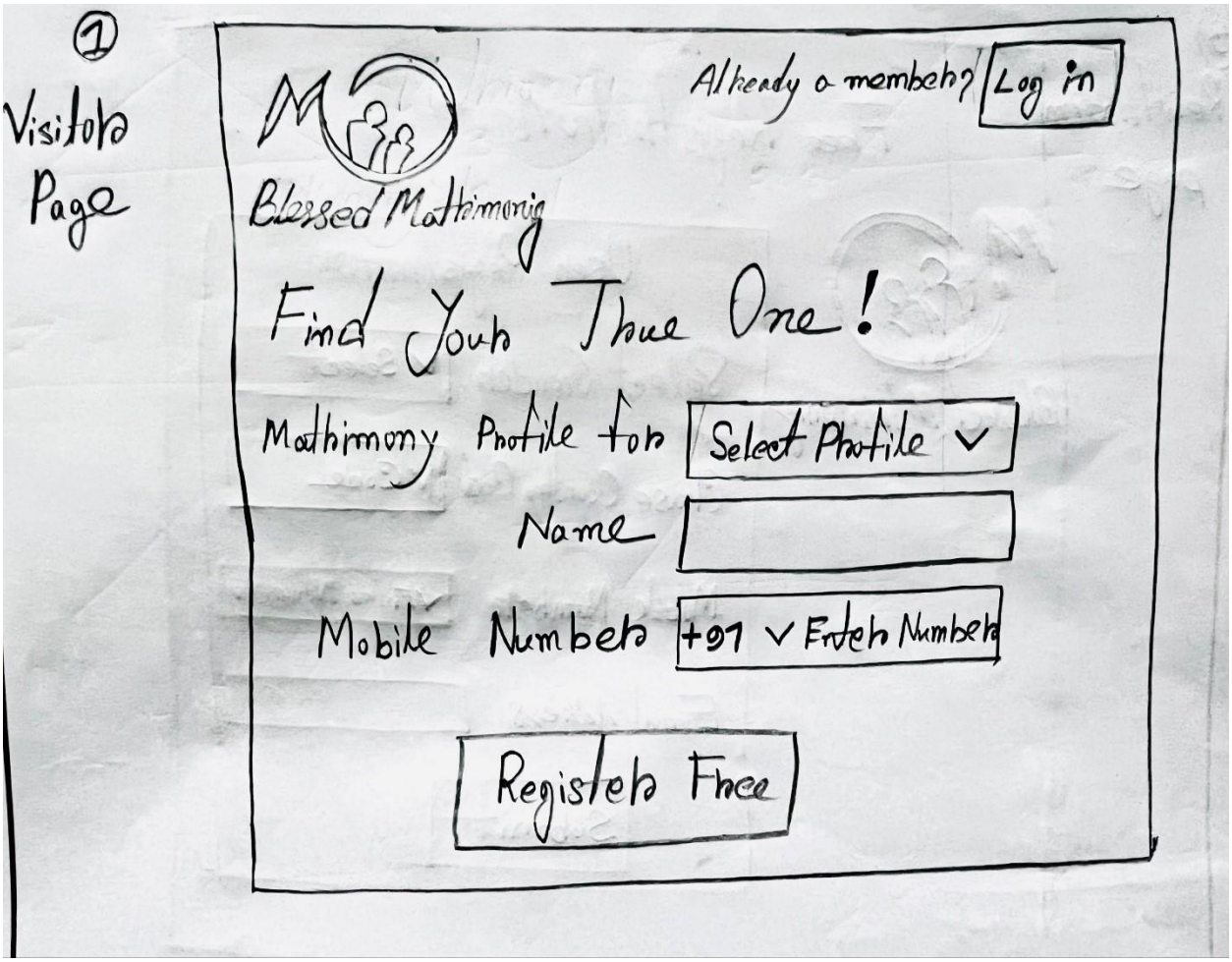
- **SCRUM Team**
  Scrum Team is the project team that has the authority to decide on the necessary actions and to organize itself to achieve the goals of each Sprint. The scrum team is involved in effort estimation, creating the Sprint Backlog, reviewing the product Backlog list, and suggesting impediments that need to be removed from the project.

- **Customer**
  Customer participates in the tasks related to product Backlog items for the system being developed or enhanced.

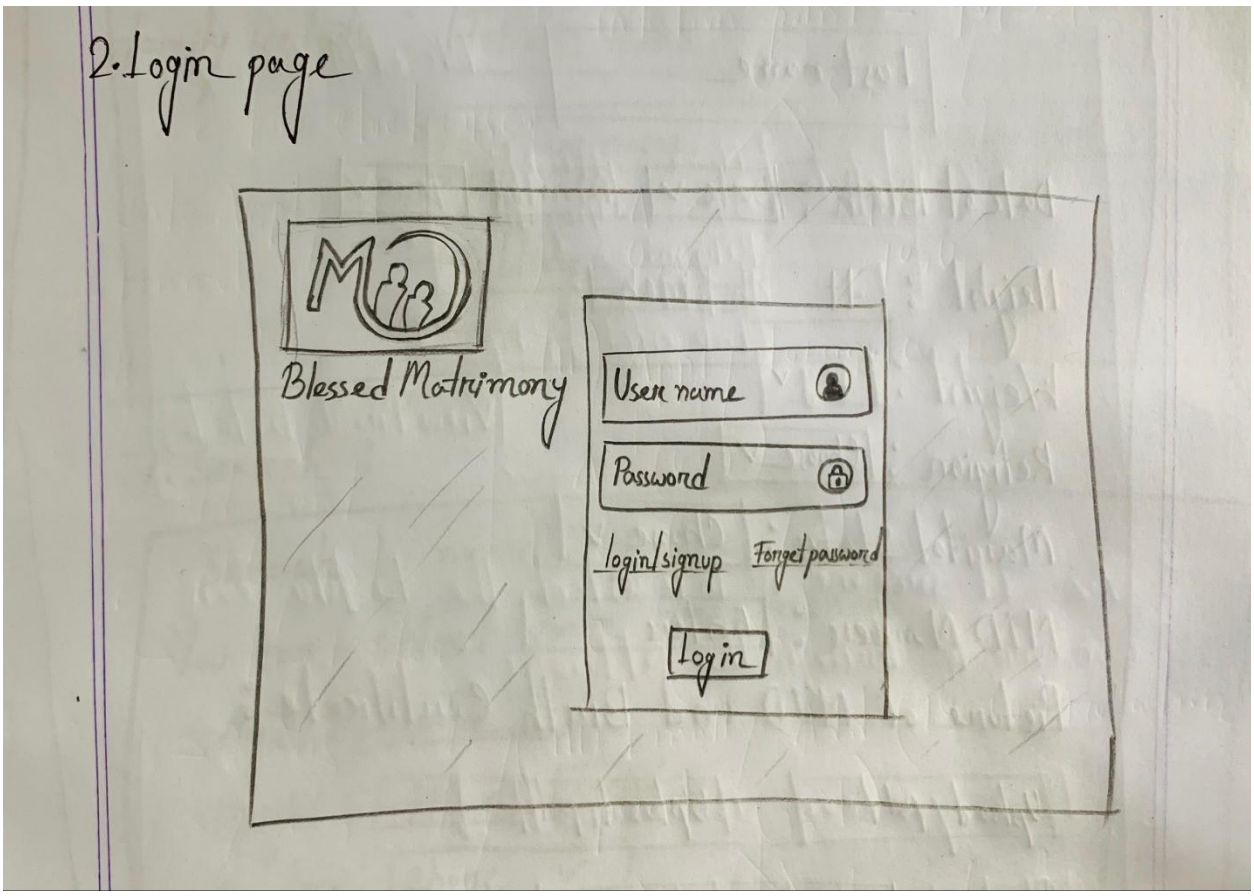
- **Management**
  Management oversees final decision making, along with the agreements, standards, and conventions to be followed in the project.

5. Prototype:

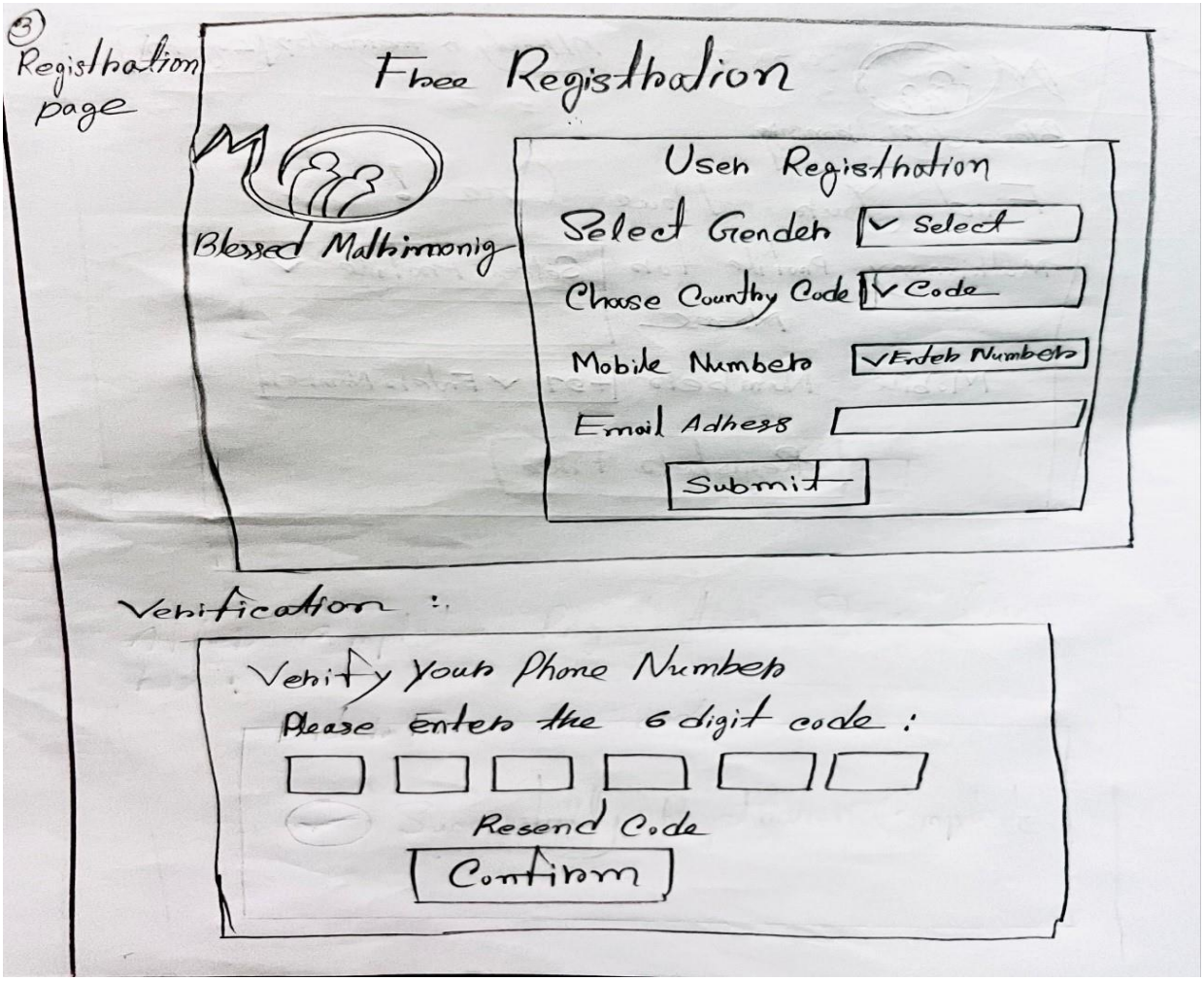
First the users will see this visitor page.

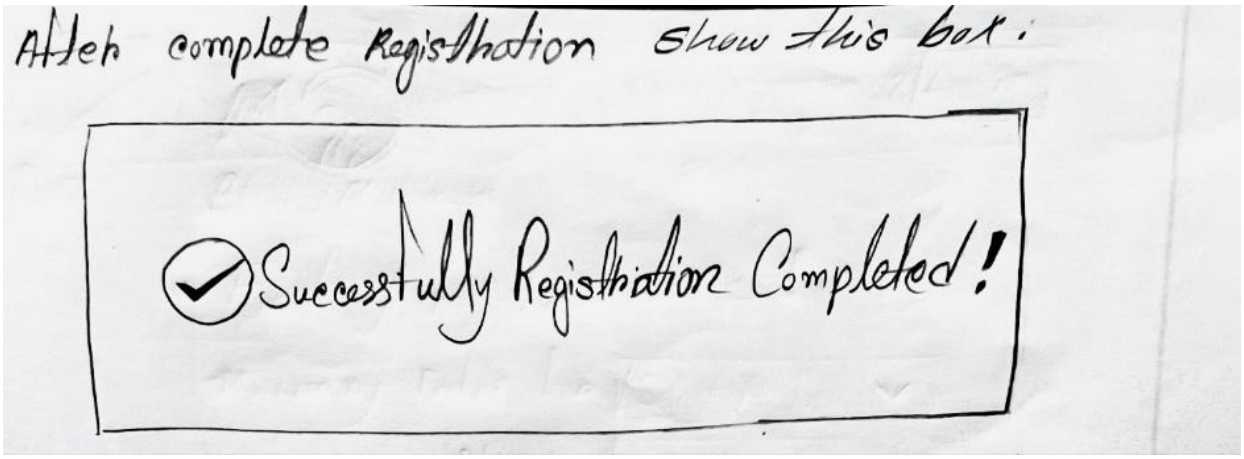


Then, if the user is already having an account, he or she needs to login with their username and password. If not, then by clicking signup button the users can create their account. Also, if any user forgets their password, they can recover it through clicking “forget password?” button.

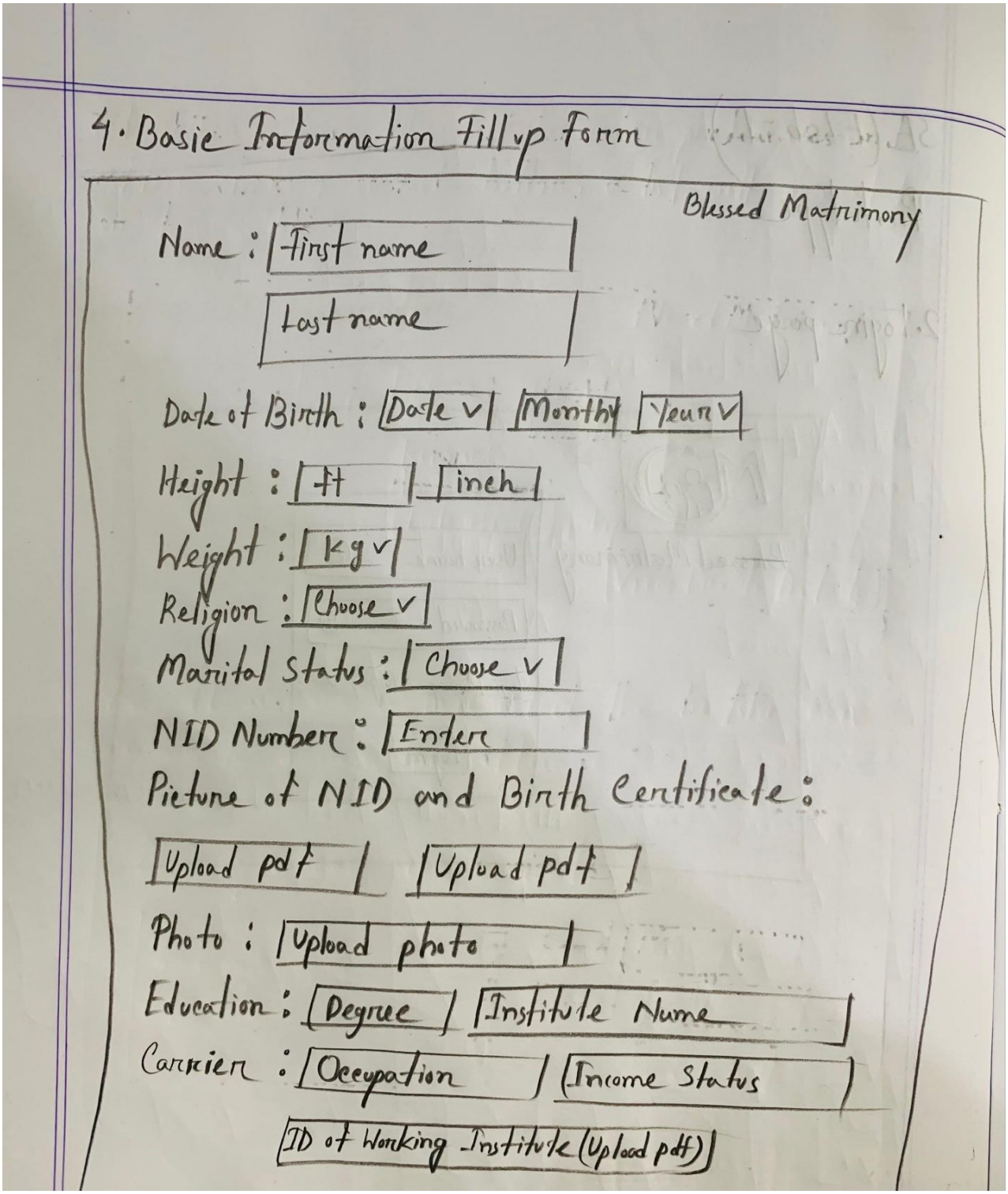


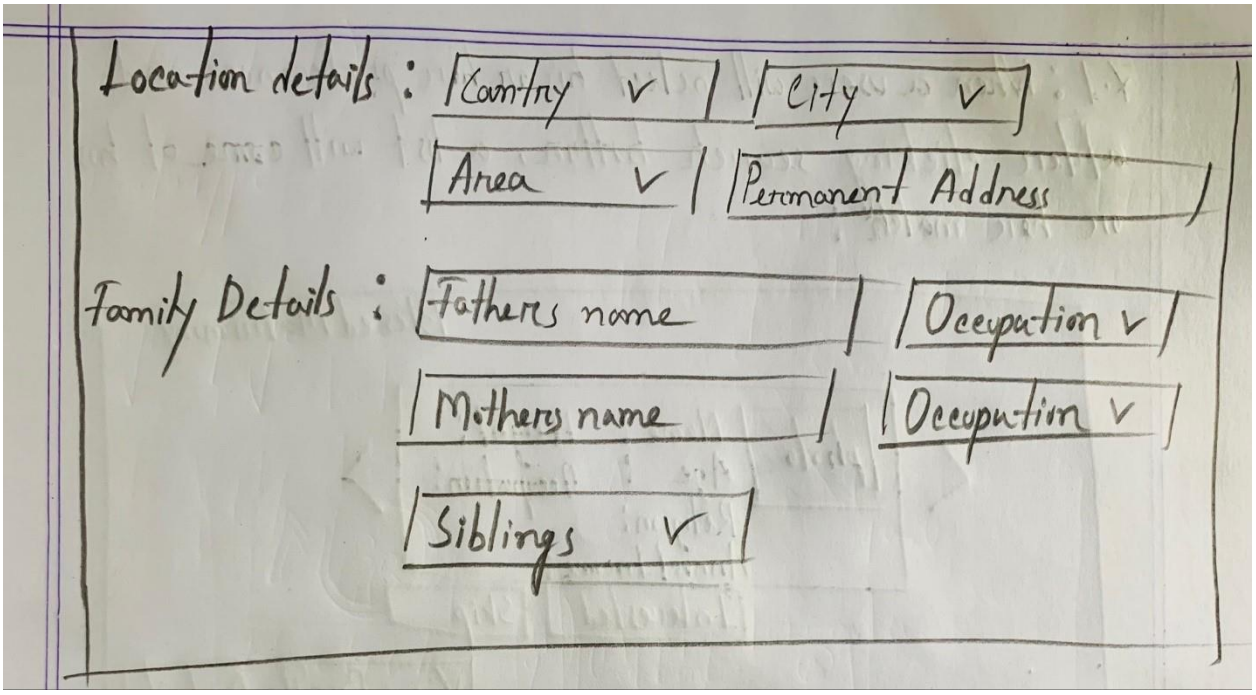
When a user clicks signup button that will directly take them to registration page. Users can do free registration here by giving their proper required information and a verification code will be sent to their number. Users must write the code in the correct place and the system will then verify the user.



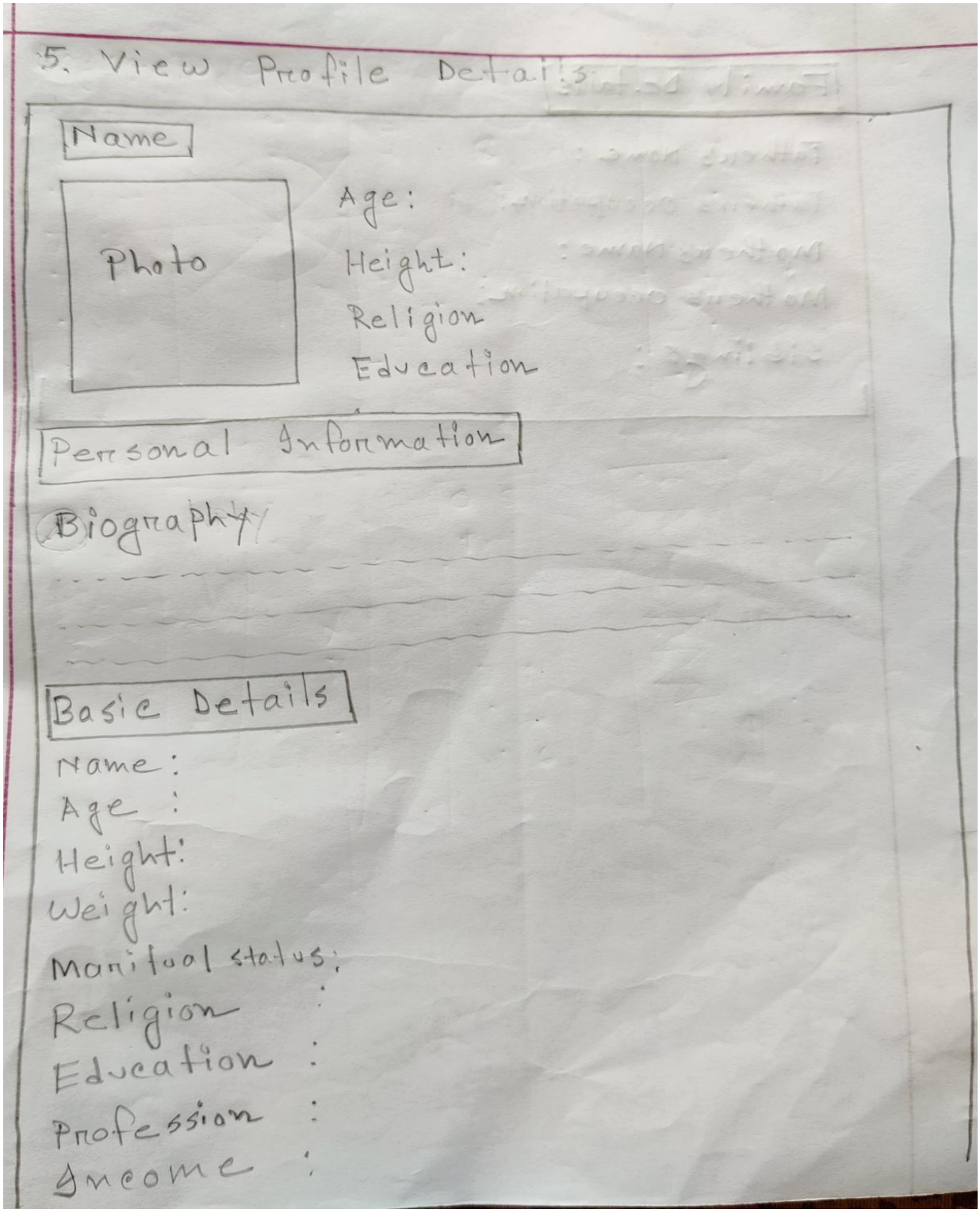


After registration the user have to fill-up the basic information from properly.

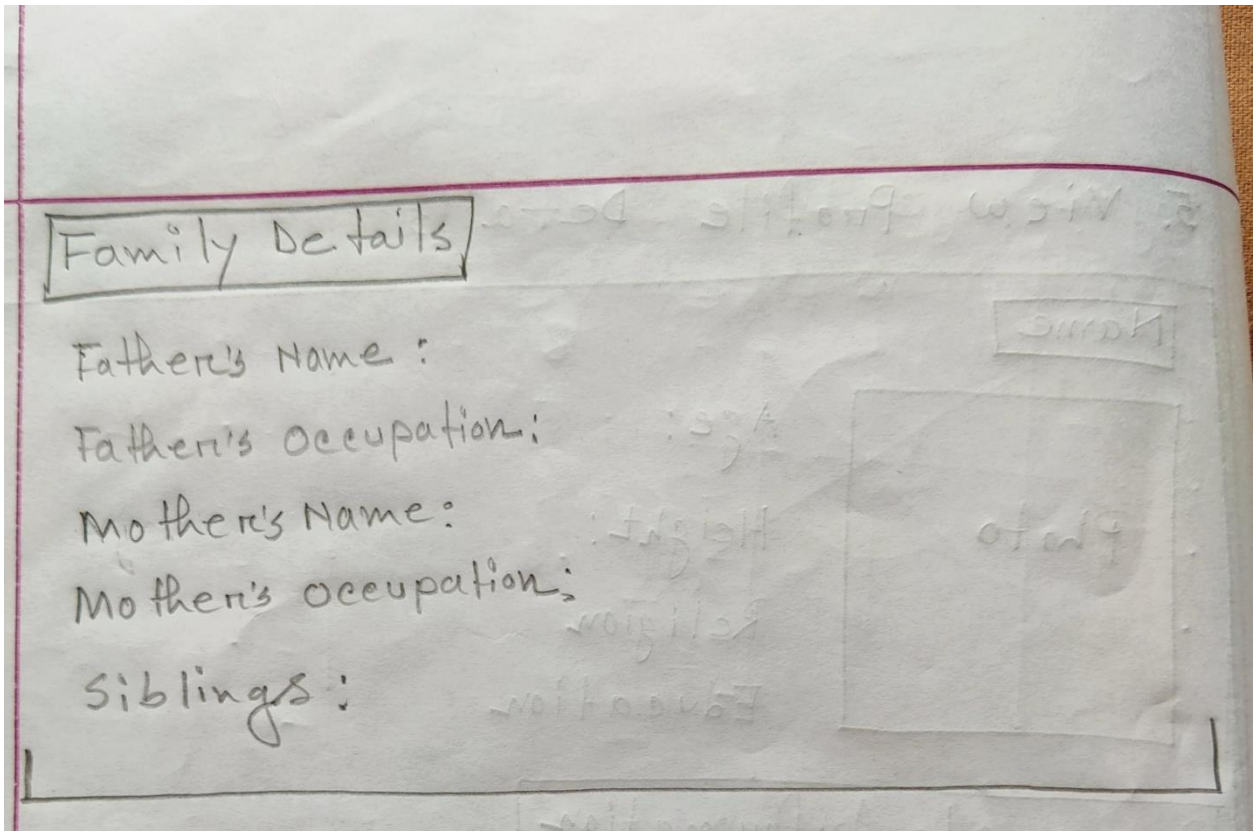



Location details :
Country
City
Area
Permanent Address
Family Details :
Fathers name
Occupation
Mothers name
Occupation
Siblings

The users profile will look like this.



© MMH



Family Details

Father's Name :

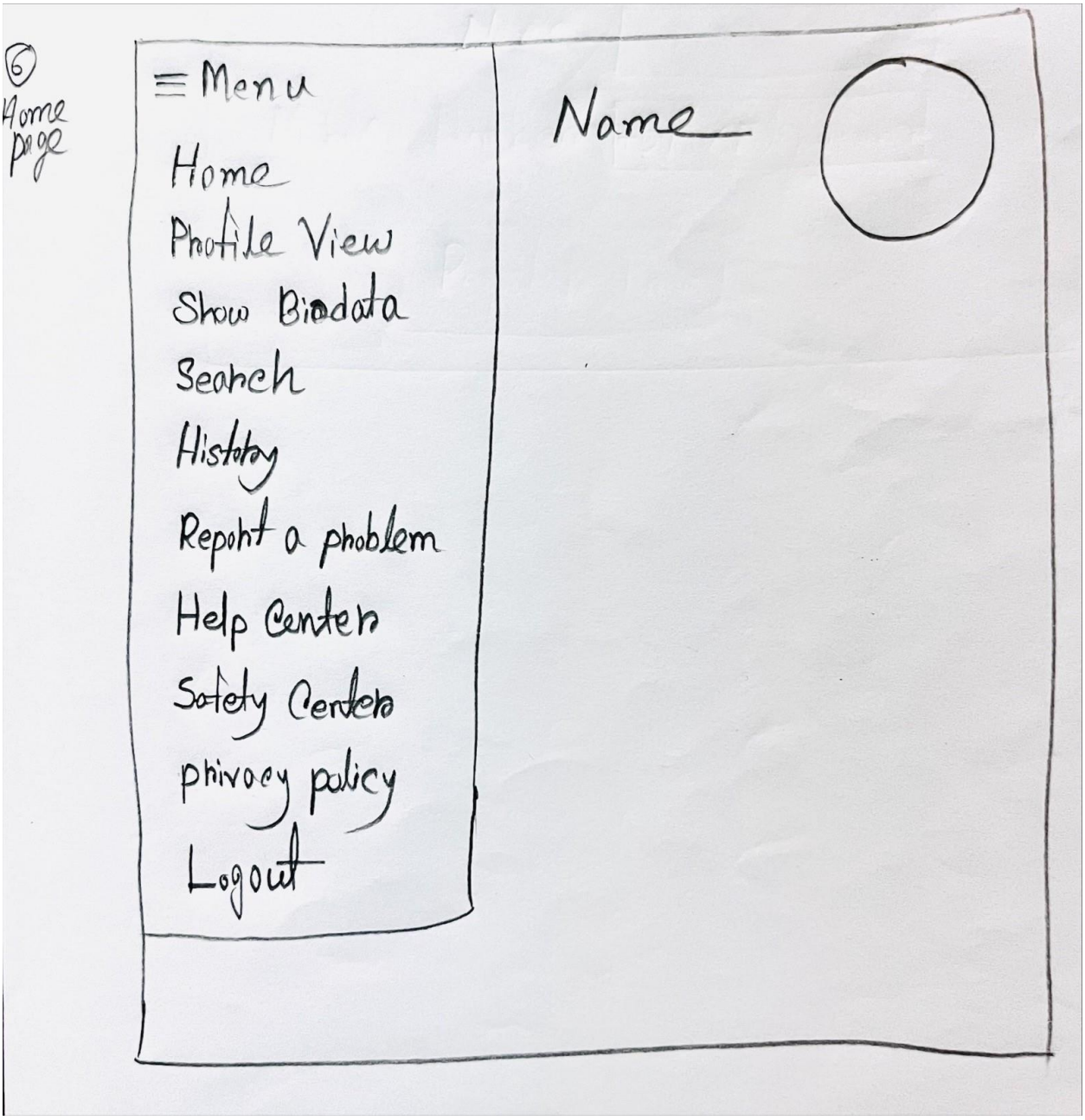
Father's occupation :

Mother's Name :

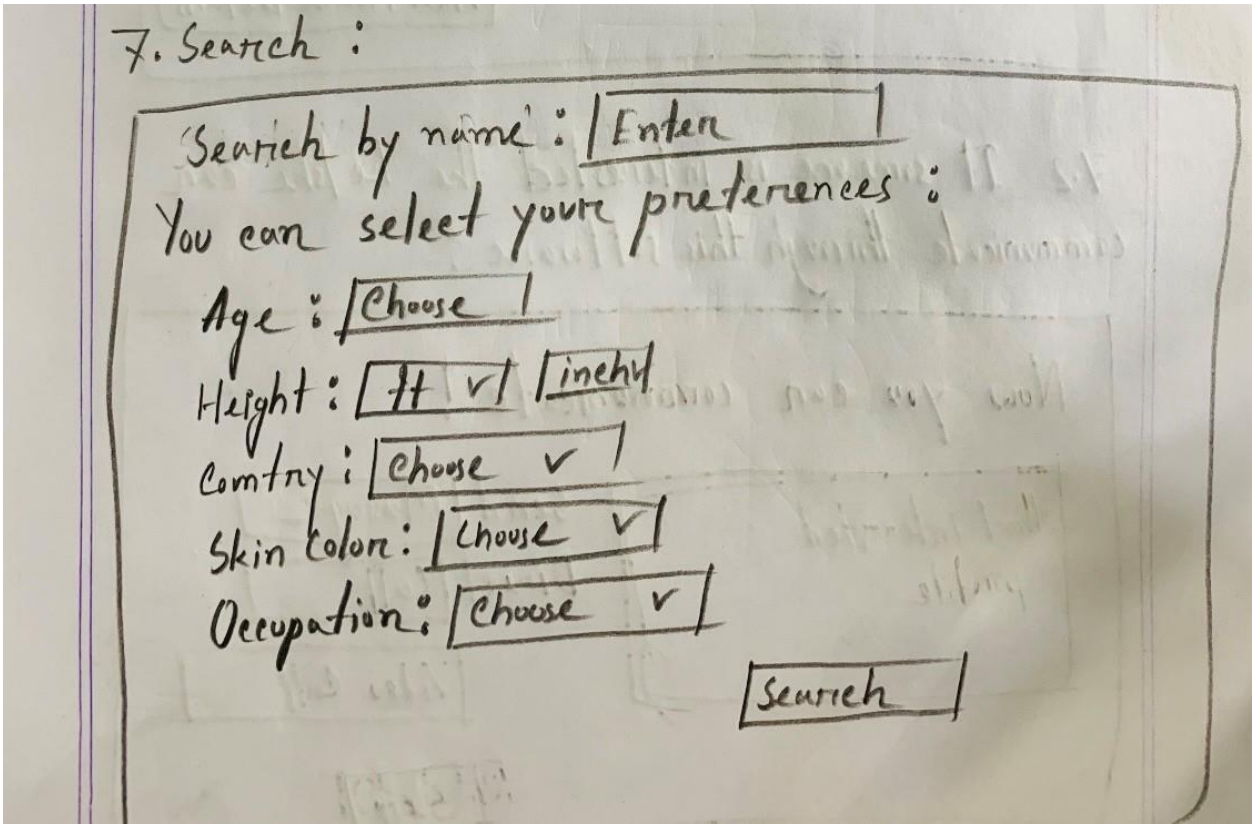
Mother's occupation :

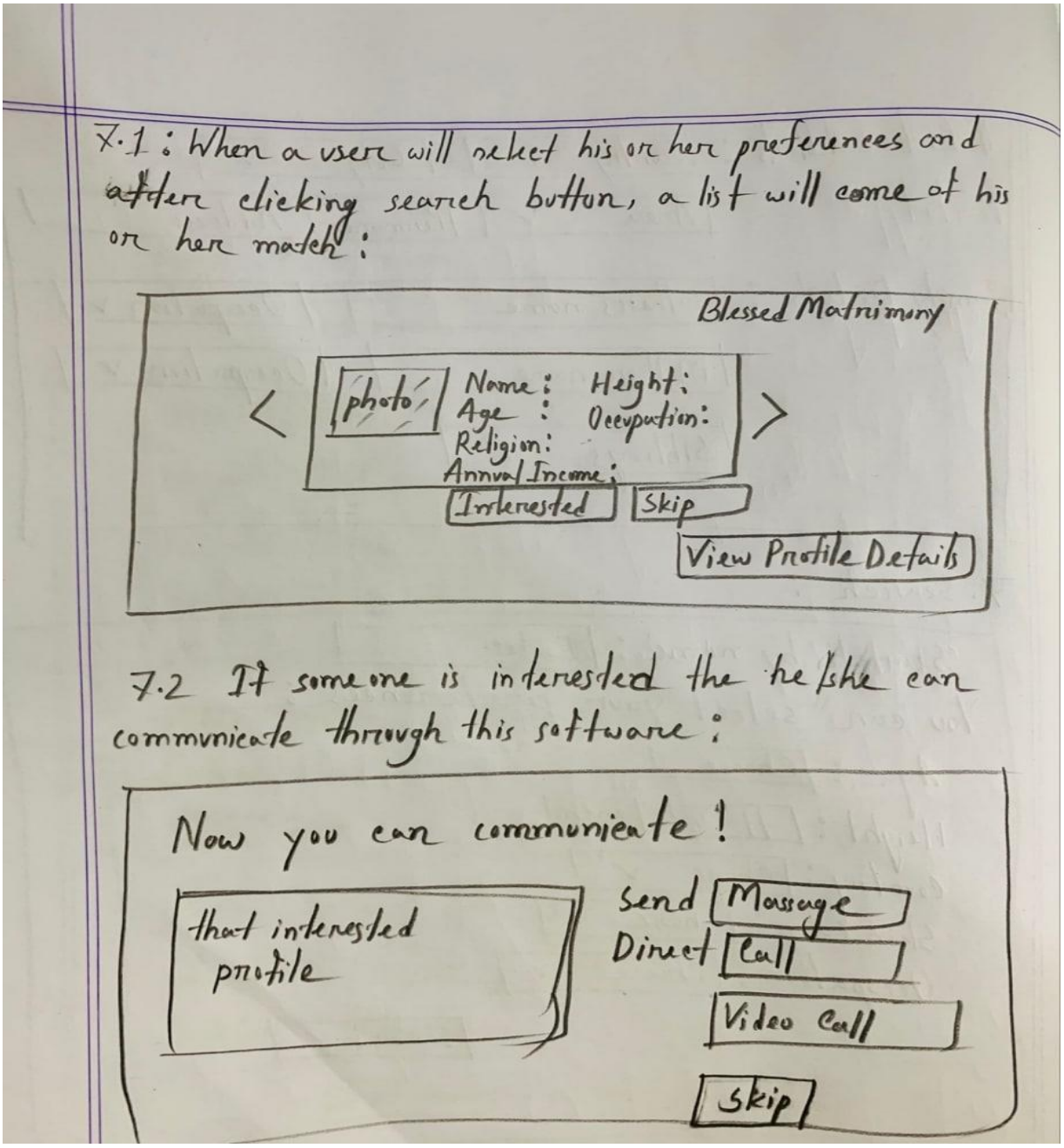
Siblings :

This is the home page view.



Search page.


7. Search :
Search by name : Enter
You can select your preferences :
Age : Choose
Height : ft inch
Country : Choose
Skin Color : Choose
Occupation : Choose
Search



If the user press skip button this will take him or her to the home page.

6. System Testing

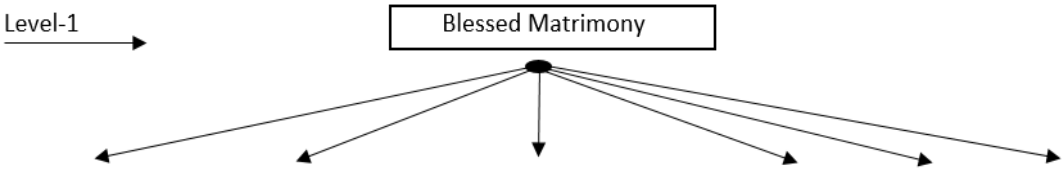
1. Web, desktop and mobile.
2. Modules of the system are
    - Visitors page
    - Login page
    - Registration page
    - Home page
    - Search option
    - Communication
    - Logout page
    - Admin module

No.	Requirements	Steps	Expected Result	Actual Result	Result	Comments
1	Visitor page	• Click profile for • Enter name • Enter mobile number • Click on free registration	Users should be able to do the free registration	Users can do the free registration	Pass	No comments
2	Login	• Enter username • Enter password • Click login • Click signup • Click forget password	• User should be able to log in • User should be able to signup • User should be able to reset password	• User can log in • User can signup • User can reset • password	Pass	No comments

No.	Requirements	Steps	Expected Result	Actual Result	Result	Comments
3	Registration page	• User registration • Click to submit button • Successfully create profile • Basic information form fill-up • View profile	• User should be able to do registration by selecting gender, enter country code, mobile number, and email address. • User should be able to submit verification code and verify. • User should be able to fill-up all required basic information form • User should be able to see their profile	• Users can register properly • Users can verify properly • Users profile creation successful • Users can fill-up basic information form • Users can see their profile with all information	Pass	No comments
4	Home page	• Menu bar • Profile	• User should be able to click on menu bar and see a list of different page button • User should be able to see their profile on the right side of the home page	• Users can see menu bar properly • User can see their profile in the home page properly	Pass	No comments

No.	Requirements	Steps	Expected Result	Actual Result	Result	Comments
5	Search button	• Search by name • Search by own preferences • Show a list of matched requirements • Visit interested profile and see basic information	• User should be able to search by name • User should be able to search by their own preferences like age height weight occupation etc. • User should be able to see a list of their match • User should be able to visit profiles of their interest and see basic information	• Users can search by name • Users can search by own preferences • Users can see a list of their match • User can visit profiles of their interest and see basic information	Pass	No comments
6	Communication	• Massage • Call • Video call	Users should be able to communicate through call, massage, and video call	Users can communicate through call massage and video call	Pass	No comments
7	Logout button	Click logout button	User should be able to logout anytime from home page	Users can logout properly	Pass	No comments

7. WBS:



Project Management	System Engineering	Software	System Test	Support Services	Installation
I. Analysis II. Planning III. Costing IV. Scope management V. Task management VI. Project communication VII. Human resources management VIII. Risk management IX. Quality management	I. Technical planning II. Business requirements III. System requirements	Software Design: I. Requirements specification II. Software design specification III. Software prototyping Software Build: I. Software unit coding II. Unit debugging Unit Testing: I. Particular system selecting II. Identifying modules III. Preparing test cases IV. Perform test cases	I. Module and subsystem testing II. System integration testing III. Acceptance testing IV. Defect classification and matrix	I. Quality assurance II. Development tools and utilities	I. Installation planning II. Documentation III. Installation management IV. Installation testing and verification V. Installation performance monitoring

8. Project Estimation:

Software project type: Organic

So, Coefficient = 2.4

P = 1.05

T = 0.38

SLOC = 5000

PM = Coefficient $_{\text{<Effort estimation>}}$ X (SLOC/1000)$^{\hat{}P}$

= 2.4 X (5000/1000)$^{1.05}$

= 13

DM = 2.05 X (PM)$^{\hat{}T}$

= 2.05 X (13)$^{0.38}$

= 6.62 months

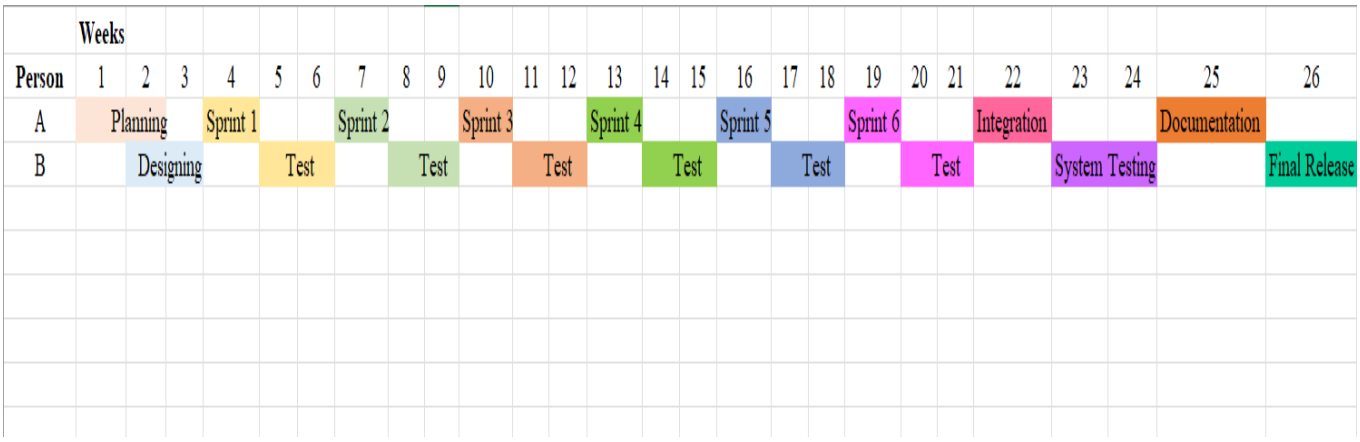
ST = PM/DM

= 13/6.62

= 1.96

≈ 2 people

Timeline Chart (I)



Weeks = DM × 4

= 6.62 × 4

= 26.48 ≈ 26 weeks

Activity key:

A : Planning

B : Designing

A : Sprint 1

B : Testing of Sprint 1

A : Sprint 2

B : Testing of Sprint 2

A : Sprint 3

B : Testing of Sprint 3

A : Sprint 4

B : Testing of Sprint 4

A : Sprint 5

B : Testing of Sprint 5

A : Sprint 6

B : Testing of Sprint 6

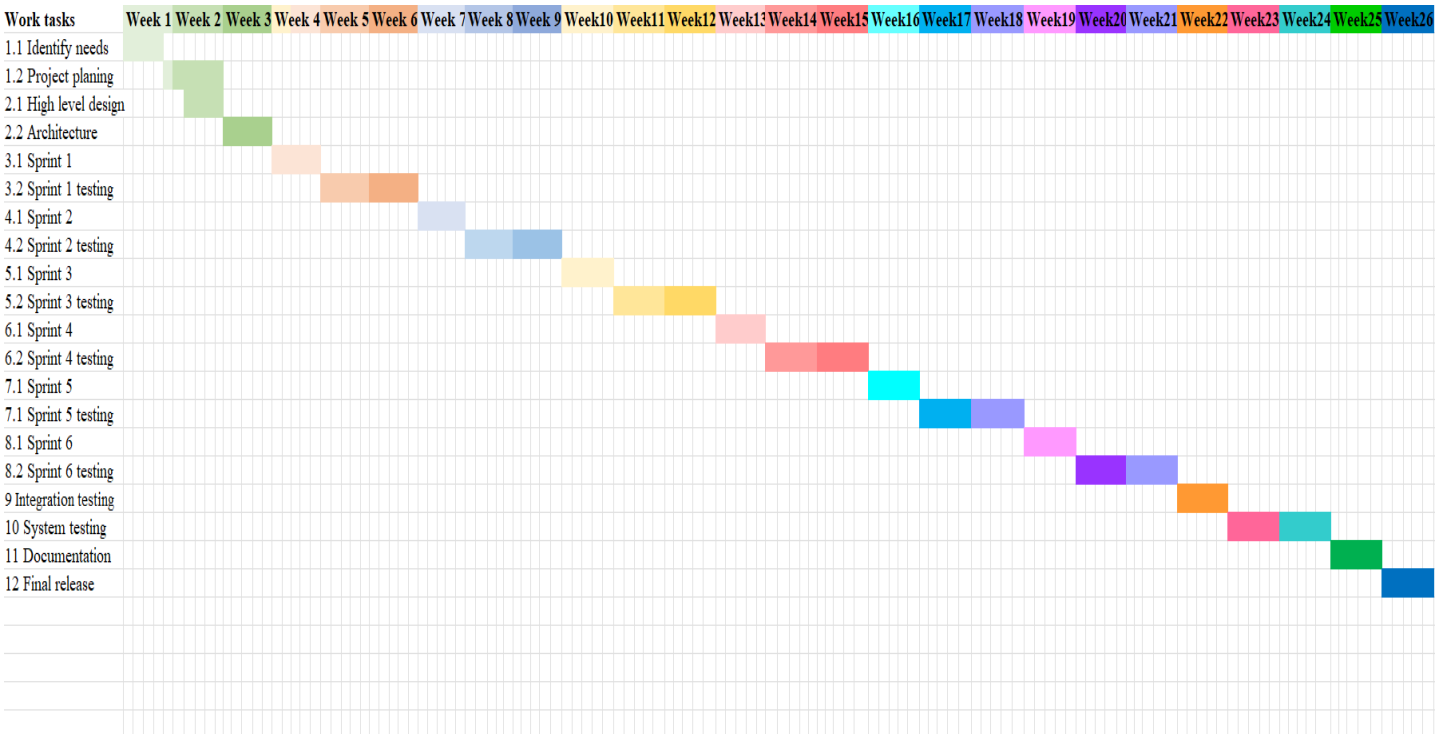
A : Integration Testing

B : System testing

A : Documentation

B : Final Release

Timeline Chart (II)



9. Earned Value Analysis:

Schedule weeks = 26

Effort estimated = 26 X 5

= 130 person-day

Total task = 20

10 tasks have been completed but the project schedule indicates that 15 tasks should have been completed in that time.

Task	Planned effort	Actual effort
1	12.0	12.5
2	15.0	11.0
3	13.0	17.0
4	8.0	9.5
5	9.5	9.0
6	18.0	19.0
7	10.0	10.0
8	4.0	4.5
9	12.0	10.0
10	6.0	6.5
11	5.0	4.0
12	14.0	14.5
13	16.0	-
14	6.0	-
15	8.0	-

BCWP (Planned effort, tasks 1–10)

BCWS (Planned effort, tasks 1–15)

ACWP (Actual effort, tasks 1–10)

BAC = 130

BCWP = 107.5

BCWS = 156.5

ACWP = 109

SPI = BCWP/BCWS = 107.5/156.5 = 0.68690

SV = BCWP – BCWS = 107.5 – 156.5 = - 49 person-day

CPI = BCWP/ACWP = 107.5/109 = 0.98624

CV = BCWP – ACWP = 107.5 – 109 = - 1.5 person-day

% Schedule for completion = BCWS/BAC

= 156.5/130

= 1.20%

[% of work schedule to be done at this time]

% Complete = BCWP/BAC

= 107.5/130

= 0.83%

[% of work completed at this time]

10. Risk Table:

Risks	Category	Probability	Impact
Size estimate may be significantly low	PS	60%	2
A larger number of users than planned	PS	35%	3
Less reuse than planned	PS	65%	2
End users resist system	BU	30%	3
The delivery deadline will be tightened	BU	40%	2
Funding will be lost	CU	80%	1
Customers will change requirements	PS	70%	2
Technology will not meet expectations	TE	40%	1
Lack of training on tools	DE	60%	3
Staff experienced	ST	40%	2
Staff turnover will be high	ST	60%	2
Fails to meet the requirements	DE	40%	1
Scheduling problem	DE	30%	2
Real time performance problem	DE	50%	1
Some shortage of financial resources	DE	30%	2