



**American International University-Bangladesh (AIUB)**

**Department of Computer Science**

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**Online Maid Service**

Software Requirement Engineering

Sec: **A**

Project submitted

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## 1. PROBLEM DOMAIN

A third world country like Bangladesh, home or office Maid is a very essential person. But to find a proper maid is a very challenging task indeed. There are lots of issues that make it complicated to find a maid. So our project is on **“Online Maid Service”** where we have discussed that what is problem is & why this project is important these days. That’s why we choose category A. This is a real-life problem in our own life or community.

### 1.1 Background to the Problem

- In our daily life there is huge role of maids whether it is a home or office or school or anything else. They do the most of the work & we pay them for their service. But it is not an easy process at all as it sounds like. Sometimes it is very hard to find a maid. If you have shifted your home or office on a new area & most of the time you don’t actually know that where you will find the maid. Sometimes you got the maid but the negotiation between you & maid doesn’t goes on. The salary, security, trust, and efficiency all these things are very hard to match. Considering all this problems we decide to go for a solution of this problem & that is the **“Online Maid Service”**.
- If we look around us we can see there are lots of problem around us & also people are solving & finding solutions of this problems. Today we have apps or online services for almost everything like food order, ride sharing, money transfer, job portals, essential product delivery & more. All these apps/websites are there to make our life easy & comfortable so that we can do everything efficiently & easily than before. But there no proper app/website in our country for maid services. Our online maid service is the root solution for solving all the problems that we are facing these days through manual process. One of the biggest issue is the trust issue of both maid & the house/office owner that if the maid got appointed she/he will continue the work after payment or they will work properly as instructed or they will not stole anything from the owner. The salary problem is another issue. Sometimes the owner gives late payment or sometimes they don’t even pay for like months after month. Same goes for maids that sometimes they are absent on their working place without any valid

reasons. There is another big problem that is physical torture & harassment to the maid. Finding a maid is tough task to do especially now a days when covid-19 is out there. So for all these problems out there we want come out the solution with our online service.

## **1.2 Solution to the Problem**

- We have discussed a lot of problems above. Now it's time to discuss the proper solutions. The first solution is how to find the maid easily. To find a maid the users have to specify the working location, monthly salary, working hours. If the user's requirements match with the maid's information then the admin will make contact with both for further progress. There will be some terms & conditions that must have be maintain strictly. Some of the conditions are, there should be no harassment & any kind of physical torture towards the maid. The maid can complain to the admin about these if any of the condition goes wrong & the admin will take the necessary steps against the rule the user have broken. Also if the maid stole anything & make any uncertain condition then the user can also complain against the maid. For registering the maids there will be different recruiter for different places. They will go through the area & register the maids. Another problem is the security issue. Sometimes there are some maid that gets into someone's house as a maid but actually they are kind of thief that stoles thing & run away. But in our system there is no chance of it. During the registration the maids have to give his/her National ID card information alongside with their present & permanent address. If there is any kind of complain about stolen then the admin will take action against the maid in next 24 hours. In our system we won't only provide the house maid but will also provide maids for office, school & day care organizations. If the user is demanding an educated maid then will also find it here. Now for the salary problem, the users have to give the salary to the maid within the first 7 working days of a month. If the users fail then the maid won't work from the next day & if the users don't pay it in the next 10 days then legal actions will be taken against the user. The salary will be counted on hourly works. So if the maid doesn't continue the work let say after working 14 day then then salary will be given for that 14 days specifically not for full month.
- In the home page of the software there will be option for login & registration. If you are a new user then you have to register first. For registration you have to give your NID info, Name, Address, Contact number. They can select if they want a permanent servant or a temporary servant. They can also select the category. The recruiter will collect & registration on behalf of the maid if they are not educated. For maid, they have to pay 10% of their total salary only for the first month. The users also have to pay 15% of the salary that they have negotiated with the maid after 1 month of work. There will be complaining option for both user & the maid. To make it better we have set the rating for users where they can rate their maid from their experiences. The users have to make sure of the safety of the maid if there are any risky tasks. They

main purpose of this software is to make our daily life easy & flexible. The software has a very user friendly interface where it is very easy to understand every task. Maid will be got paid on appropriate time as it is designed & the trust among the user & the maid will be conducted.

## **2. SOLUTION DESCRIPTION**

We used web technology to solve this problem. The admin will manage the user, maid of this system. Desktops, laptops or android device and internet are very common these days. Almost in every house, there is at least one desktop or laptop and everyone has an android device. That is why we are creating a web based application. We are focusing more on technology to reduce maid problem and to create a better experience.

### **2.1 System Features**

In our project, there are some features. We categorized our customer service appropriately.

**Category A:** All type of house work.

**Category B:** Cooking & Cleaning.

**Category C:** Baby Care.

**Category D:** Old age care.

**Category E:** Patient care (temporary).

#### **Admin Features:**

- View own profile
- Edit own information
- Add Employee
- Manage employee details (Salary, Assign works etc.)
- Show list of All Employees
- Show list of All Maids
- Show list of Maids available for work.
- Search Employees, Maids

**Employee Features:**

- View own profile
- Edit own information
- Add Maids information to the system
- Manage Maid's details (Salary, Assign works etc.)
- Show list of All Maids
- Show list of Maids available for work.
- Search Employees
- Search Maids from the system
- Delete Maids from the system
- Show list of All Users
- Search User from the system

**Customer/User Features:**

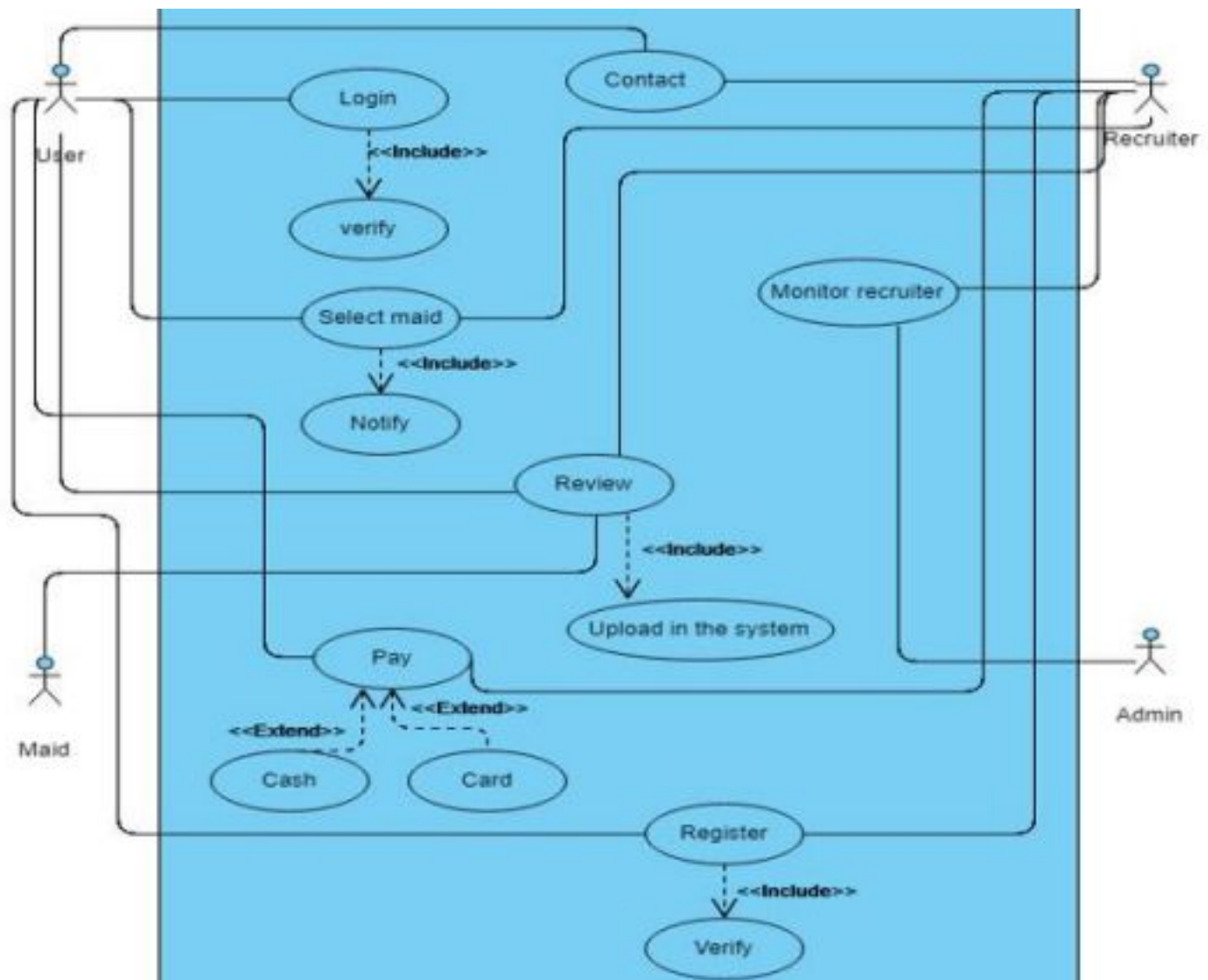
- Sign up to the system (with proper information)
- View own profile
- Edit own information
- Choose Category
- Search Maids
- Show list of All Maids
- Show list of Maids available for work.
- See Maid's details (Personal information, Desire Salary, Experiences etc.) •
- Ask addition queries about Maids (if have any)
- Confirm Maid for work.

## 2.2 UML Diagrams

### Use Case Diagram:

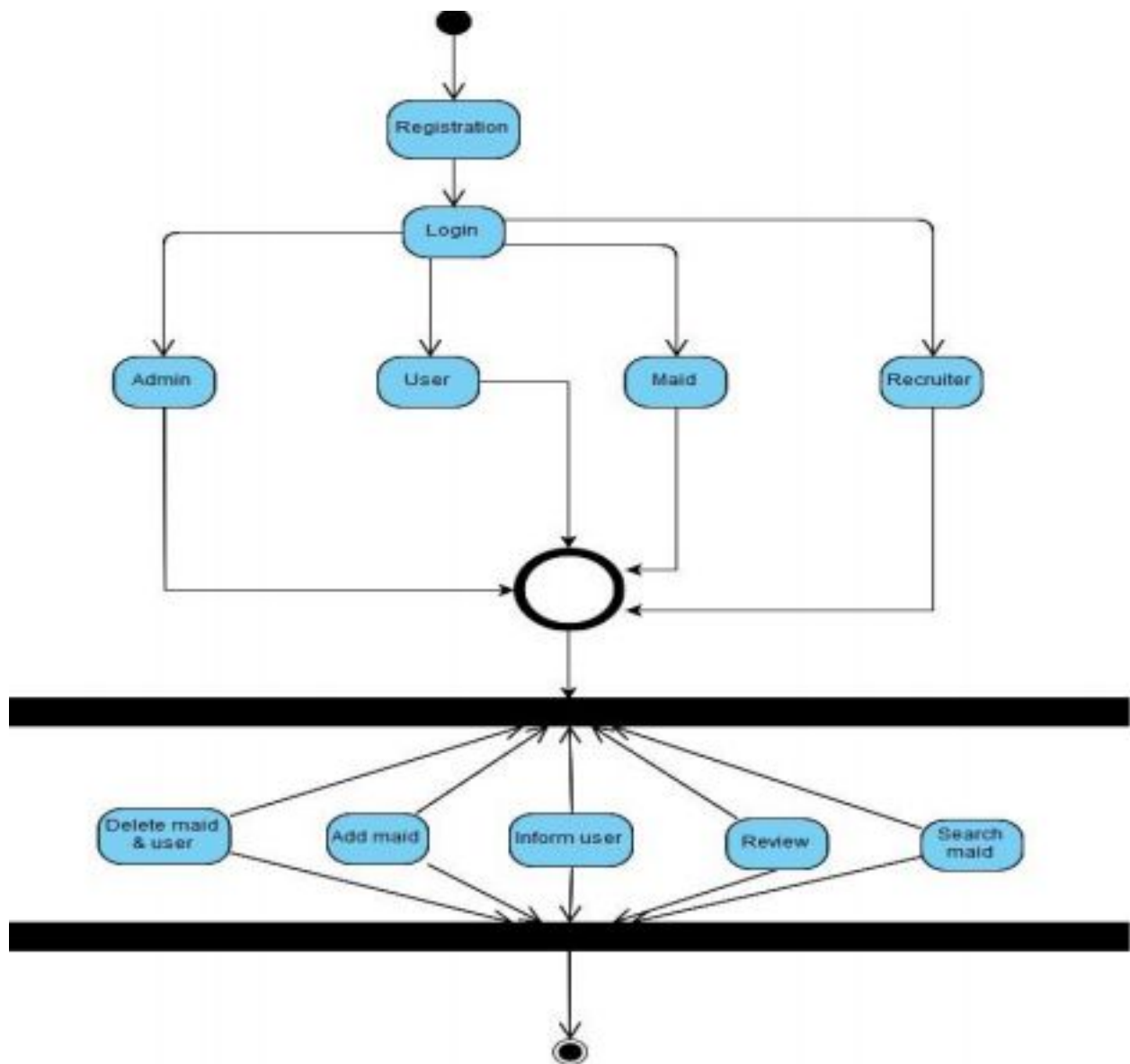
#### Case study:

In an online main service system, a user contact with a recruiter. User has to log in the system before use it, but to log in the system user has to go through verification. If the verification is complete then the user can register all information and verification needed before registration. After verification user select a maid. The user made the selection and confirmed the recruiter. Both the maid and user have review options. Admin monitor recruiter all task. After everything is done user pays his bill via cash or card.



## Activity Diagram:

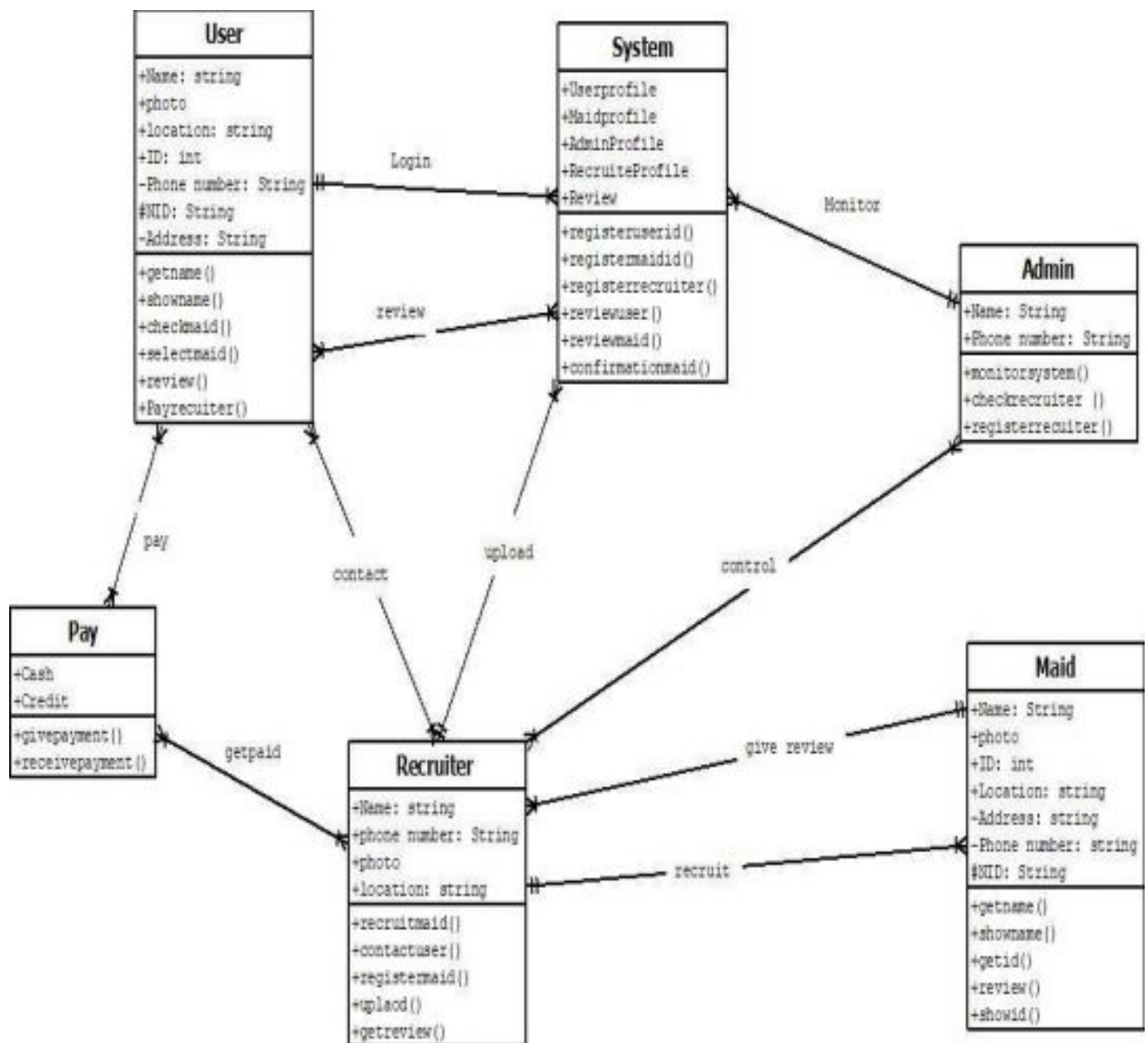
**Case study:** In an online maid service, user, maid & recruiter log in the system after registration. All the register member can operate multiple activity like admin can delete, add maid and user etc. user and maid can review, search. Then the system turns into end state.



## Class Diagram:

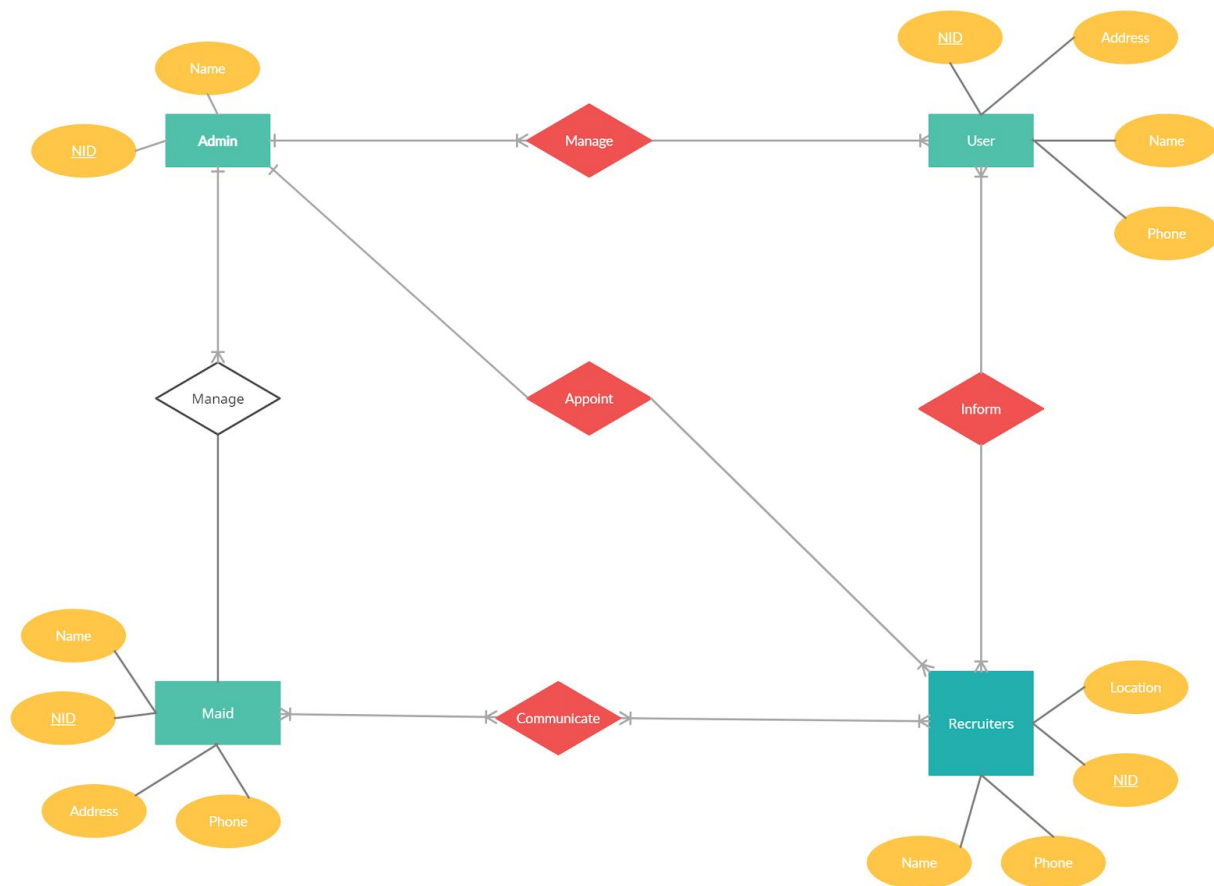


**Case Study:** Online maid system service a user log into the system. One user can login the system one or many times. Admin monitor the system. An admin can monitor the system more than once. Also admin can control all recruits. Recruit and admin can both have access to them one or multiple times. Recruit upload all sorts of things in the system in the system one or more times. Recruiter can recruit maid. Recruiter can recruit maid information one or more times. One maid can give review one or many recruits at a same time. The user can pay money various way. One user can pay one or more times. After paid the notification of get paid can come to recruits one or more times.



## E-R Diagram:

**Case study:** In our online maid service system, user takes service from the system. So, user has his/her photo, nid, address, name, and phone. An admin controls the entire system and manages user all information. Admin has nid and name. An admin also manages maid all information. Maids also have their nid, name, photo, address, and phone. Admin appoint recruiters. All the recruiters have their own name, location, phone, nid. The user informs recruiter of all their problems and information. The entire maid communicates recruiter if they are experiencing any problem.



## 3. Social Impact

Our project name is Online Maid Service. It is web base application that can be accessed through desktop or mobile from anywhere. The main purpose of this application is to make peoples life easier. By nature human being always wants someone to help their chores, and finding trust worthy maid is one of the tough and hassle nowadays. By using this web application people can easily get or search maid. Also can see maid's full information, salary and if the maid is as experience as they want or not. If

anything happens they can post about that maid on our website. Socially people and maids both are going to be benefited for this project. Because of the pandemic situation most of the maid loses their job. We can give them a comfortable, safe and secure job. By this our society's unemployment problem will solve.

#### **4. Development Plan**

For our online maid service we will be following Extreme Programming (XP) as SDLC for our software. XP is aimed for a small and medium-sized team. Our team is a small team so XP will be perfect for our system. There is an artefact called Customer Acceptance Test in XP. To follow this, there are textual descriptions and automated test cases which are developed by the customer. The development team demonstrates the completion of a user story and the validation of customer requirements by passing these test cases. This will be helpful for connecting with the user. There is practice on XP that developer tries to an emphasis on designing the simplest possible solution that is implementable at the moment. The concept of our software is very simple software so we want to keep the working simple too. This software development is test driven. Unit tests are implemented continuously. So, there will be less space for mistakes in the software. In XP open workspace is must for the developers. As we have a very small team so this will not be a problem. In XP there is pair programming. One programmer, the driver, has control of the keyboard/mouse and actively implements the program. The other programmer, the observer, continuously observes the work of the driver to identify tactical (syntactic, spelling, etc.) defects and also thinks strategically about the direction of the work. Two programmers can brainstorm any challenging problem. Because they periodically switch roles. Our system should be bug free and must be reliable. So our system must be secured and pair programming gives us this facility. When a programmer is coding any module another one can give him a quick review so there is a little chance to find any bug and make our system more secured. We can update the software for the betterment of the system in the maintenance phase.

So considering the above things we decided to follow XP for our system.

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#### **Marketing Plan**

1. We set our goals appropriately.
2. Our marketing target will indeed be established.

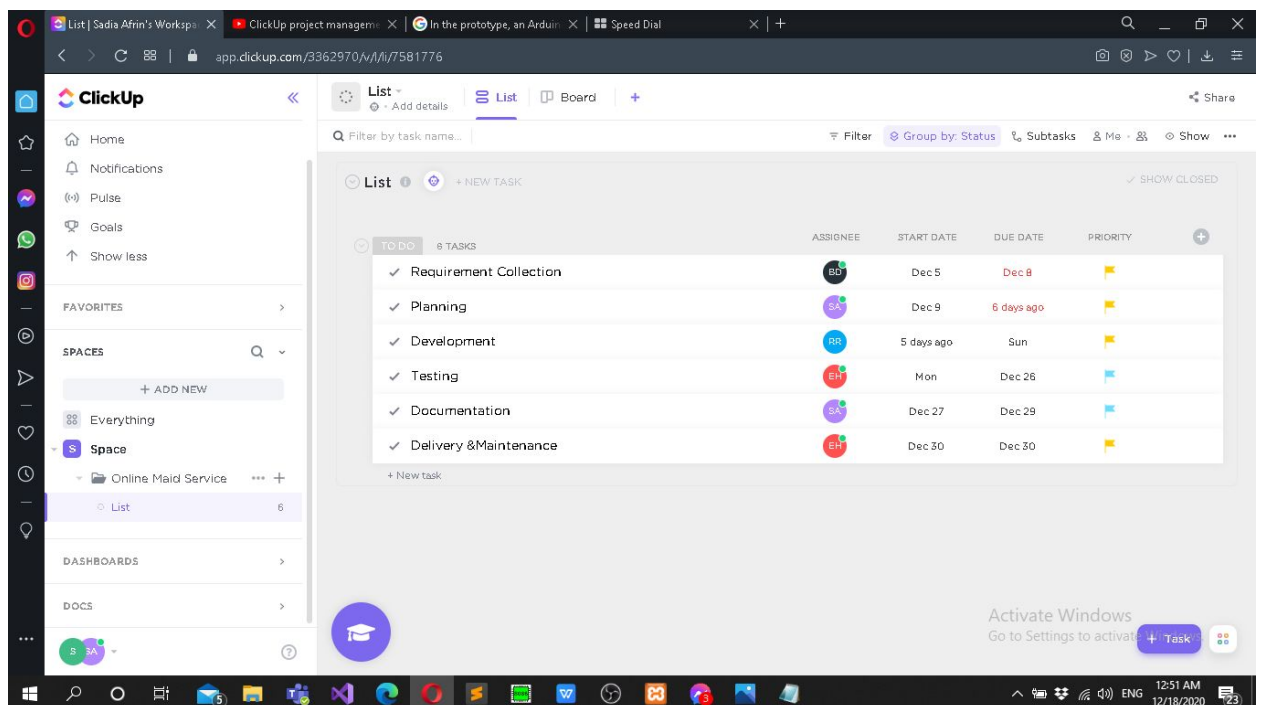
3. We rely on different platforms and benefit from what each product provides.
4. Invest Efforts and Time in SEO (Search Engine Optimization)
5. We'll develop a successful website.
6. Our customer service strategy is implemented.
7. We will do our utmost to satisfy potential customers.
8. We would focus on making sure we have a standardized and unique system.

### **Future Plan:**

In next iteration, our system will have some intelligent behaviour which detects customer choice automatically. We will make our project more user friendly than other existing system.

## **5. Cost and Profit Analysis**

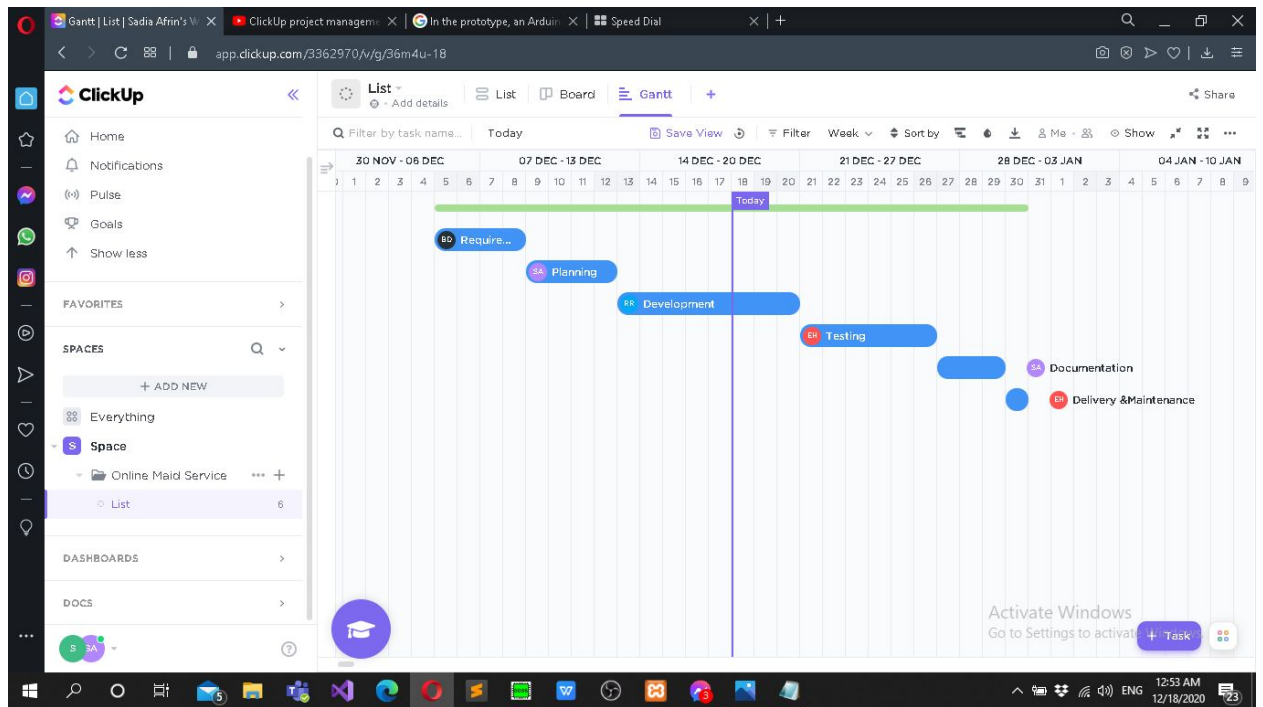
### **Scheduling:**



The screenshot displays the ClickUp project management interface. The left sidebar shows navigation options like Home, Notifications, Pulse, Goals, and Show less. The main area shows a task list for 'List' with the following tasks:

TO DO	ASSIGNEE	START DATE	DUE DATE	PRIORITY
✓ Requirement Collection	ED	Dec 5	Dec 8	High
✓ Planning	SA	Dec 9	6 days ago	High
✓ Development	ED	5 days ago	Sun	High
✓ Testing	ED	Mon	Dec 26	Medium
✓ Documentation	SA	Dec 27	Dec 29	Medium
✓ Delivery & Maintenance	ED	Dec 30	Dec 30	High

The interface also includes a bottom task bar with a '+ Task' button and a system tray showing the time as 12:51 AM on 12/18/2020.



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## Development & Marketing Cost:

Budget Report				
Online Maid Service				
SL	Project Phases	Fixed Cost	Variable Cost	Total Cost(Fixed Cost+Variable Cost)
1	Requirement Collection	0	50,000.00	50,000.00
2	Planning	0	50,000.00	50,000.00
3	Devlopment	0	60,000.00	60,000.00
4	Testing	0	30,000.00	30,000.00
5	Documentation	0	20,000.00	20,000.00
6	Marketing Cost	0	50,000.00	50,000.00
				Sum=2,60,000.00

Monthly Cost				
SL	Project Phases	Fixed Cost	Variable Cost	Total Cost(Fixed Cost+Variable Cost)
1	Devlopment	0	20,000.00	20,000.00
2	Maintenance	0	10,000.00	10,000.00
				Sum=30,000.00

Yearly Cost				
SL	Project Phases	Fixed Cost	Variable Cost	Total Cost(Fixed Cost+Variable Cost)
1	Devopment	0	20000*12	240,000.00
2	Maintenance	0	10000*12	120,000.00
				sum=360,000

**We're showing hypothetical revenue for 25 maids. Suppose they are currently working and this money we're earning only through maids and users.**

Monthly Revenue				
SL	Source	Fixed Cost	Variable Cost	Total Cost(Fixed Cost+Variable Cost)
1	Maid(10%)	0	25,000.00	25,000.00
2	User(15%)	0	25,000.00	25,000.00
				sum=50,000.00

Yearly Revenue				
SL	Source	Fixed Cost	Variable Cost	Total Cost(Fixed Cost+Variable Cost)
1	Maid(10%)	0	25000*12	300,000.00
2	User(15%)	0	25000*12	300,000.00
				sum=6,00,000.00

### **Profit Analysis:**

**This is the hypothetical profit we're showing, if number of working maid increases then our profit rate will be high as well. After they saw this analysis, we hope that we can find investors to help our system evolve and invest in it.**

				Profit Analysis					
				(Revenue-Cost)					
		Monthly:		50,000.00-30,000.00 =20,000.00					
		Yearly:		6,00,000-3,60,000 =2,40,000.00					

## References:

[1] R.S. Pressman & Associates, Inc. (2010). *Software Engineering: A Practitioner's Approach*.

[2] Diagram: <https://createy.com/lp/er-diagram-tool-online/?fbclid=IwAR33Bk6bp9VJAB3zf1dZxT1tUrKzs-zhGBv14CX7foQKp1C3ta9e4IbIXRU>