Title of the Project: City waste management or recycling system

Group Number: 12

Group Members: 02

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Introduction

The proposed project "City waste management or recycling system" have been developed to overcome the problems of city people with the waste they make in their daily life like bio waste, plastic waste etc. In this project we can see that how we can overcome the existing problems related to waste management in city area. Proper waste management is a big issue for city area and people throw their waste here and there while from waste we can generate profits by recycling it. Also, recycling waste means a proper waste management system where you can protect the environment from being polluted. We will design a proper system where both regular people and waste recycler can join and buy or sell waste like plastic bottles, bio wastes in city area. Also, from this system we will generate some revenue too from the website and the percentage we get from the buyer of waste. It is a very challenging process to maintain proper waste management in city area but in our process people will more tend to recycle their waste and by this environment will also get some benefit. So, we have designed a perfect process for managing the waste and recycle process of it which will help the buyer (recycler) - seller (regular city people) and also our system will earn profit from it.

Motivation

Proper organized city and pollution free life is our target for city people. Despite having a lot of daily issues, we want that our city people live in a hassles city. Because of wastage issue the environment gets so much harm. Wrong waste management and dumping them into improper places causes air pollution, soil pollution and water pollution. For this our proposed project can recycle most of the plastic or bio waste and turn them into reusable things like fertilizer, water bottles, bio gas etc. In our process the relation between the buyer-seller will be transparent and our revenue process will be also transparent to the waste buyer. At the end, any normal citizen will be able to use this service. Apart from this, we will be able to know how much wastes has been recycled for reusing as new products which will help us to improve more in future.

System Request

Project Sponsor: Sheikh Fazle Noor Taposh [Mayor Of Dhaka South City Corporation]

Atiqul Islam [Mayor Of Dhaka North City Corporation]

Business Need:

Full details of waste seller, Full details of waste buyer, Waste seller address, Waste buyer's address, Complaint system if any kind of issues arrive, Money transaction system, Ads based system on website for extra revenue.

Business Requirements:

It will be user friendly website which will be accessible by any citizen of city area simply using their smart phone or computer. When user will arrive first time on the website they need to sign up on the website and fill up the necessary information of them. After that they will get confirmation that they have been successfully signed up and after that they can use the website. In case of emergency they can contact to the support from the website. Also, there will be some numbers of managers where user can contact them by calling into the numbers.

- Updated database to gather how much new users coming and how much leaving from the website.
- Admins with proper knowledge of maintaining difficulties.
- Emergency contact numbers.
- Emergency support system panel.
- Transaction system.
- Other revenue generators in the website.

Business value:

The problem of city people growing day by day and at this moment if the waste management becomes another big problem it will be very difficult for city people to lead a healthy life. Also, the wastes can be a great source of income for both buyer (recycler) and seller(city people). And that's the reason we came up with this idea. Decrease the rate of problems in city people life is also one of our one of the main goal. We think that by this system in 2-3 years we will be able to come up with some unique thing what nobody else has done and our company will gradually earn enough money for all the employees who will be working here.

Intangible value:

- Successful implementation for increasing the brand value of the company.
- Improving the customer service and make a user friendly environment.

Special Issue:

- Trusted and trained admins.
- Trained emergency system management.
- Approval from city corporation.

Requirement analysis

Functional:

- Individual accounts will be provided to each user which will be required to use the system properly.

- **System:**
  - The system will keep track of all the transactions made by each user account.
  - The system will provide necessary waste pickup points on the map.
  - The system will categorize each waste according to its type.
  - The system will provide the list of buyers with their contact numbers.
  - The system will provide a statistical record of the cleanliness of each section of a particular city.
  - The system will provide contact information to buyers/sellers upon approval.
  - The system will have access to the NID database so that it can identify each user individually while signing up.

- Seller:
  - Sellers will be able to search for the nearest buyer of a particular waste that he/she wants to sell.
  - Sellers will have an option for requesting buyers' contact information so that they can communicate.
  - Sellers will be able to see the opening and closing times of a buyer's shop.
  - Sellers will be able to book an appointment with the buyer.
  - Sellers will be able to post particular wastes for advertising.
  - If a buyer is nearby the seller will be notified.

- Buyer:
  - Buyers will be able to search specific areas for a specific type of waste and request for pickup.
  - Buyers will be provided with personalized ads of particular wastes according to their preferences.
  - Buyers will be able to search for sellers according to waste categories.

- Admin:
  - Admins will be able to do basically anything.

Non-functional:

- Operational:

  - The system should be able to run on both PC and Smartphone.
  - The system should be compatible with any type of web browser.
  - The system should be able to work in poor network conditions.
  - The website will be written in 3 particular code languages highest.
  - The database of the website will be managed using specific software according to the needs of programmers.

- Security:

  - The system should have a backup on the database in case of emergencies
  - If buyers want to buy online, secure transactions will be provided so that possible money doesn't occur.

- Performance:

  - As it will be a pretty basic website, the website will take no more than 1 second to load.
  - There should not be any input lag on the website.
  - The website should be able to load in poor network conditions.

- Maintainability:

  - Admins can be provided with specific security flash drives which will grant them a super user access from any device.

  - A small team should be formed to control this website as it's a pretty basic one and a small team will provide better efficiency.

Project Scenario:

This website is intended to maximize the utilization of waste that people make by different activities in city areas. The major goal of this system is to fix our city area problems while also monitoring all personnel and difficulties to implement this. Furthermore this system is GPS based system and this system efficiently helps the managers and admin to find out where is the problem and what is the problem. Whenever a seller or buyer faces a problem then he/ she can directly share his location and issue to the admin and managers near to him. As a result an alert message is sent to the admin and managers. They will make every effort to solve the issue. The admin will be able to take care of everything and he will have all the access to the system database. If a user wishes, he or she may submit comments in addition to a rating.

Design Diagrams:

1. Use Case Diagram:

City Waste Management Or Recycling System

Link: https://drive.google.com/file/d/1eTbNFVZjbmhrbFMC1RVYZMYyCWVeAbtB/view?usp=sharing
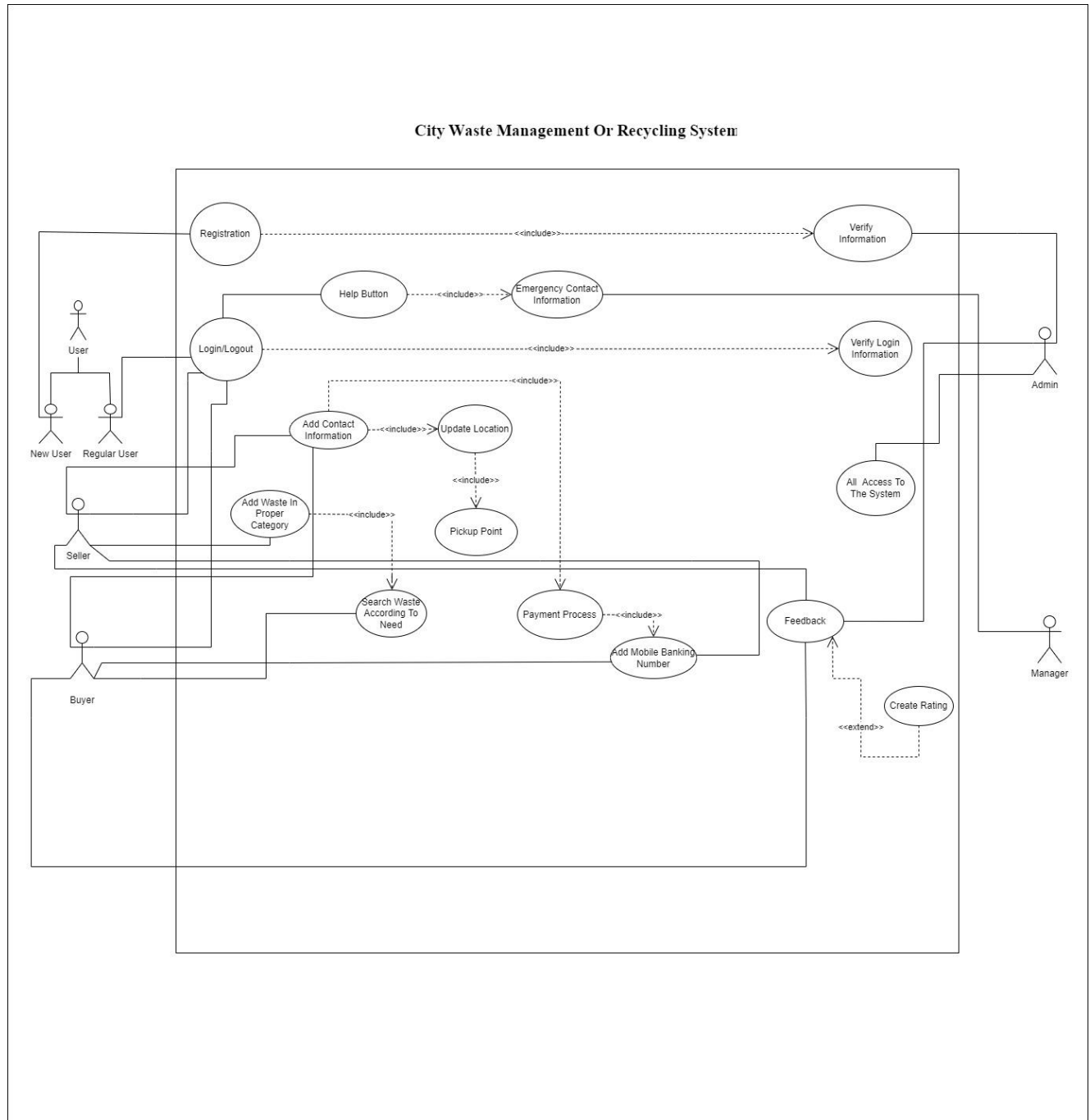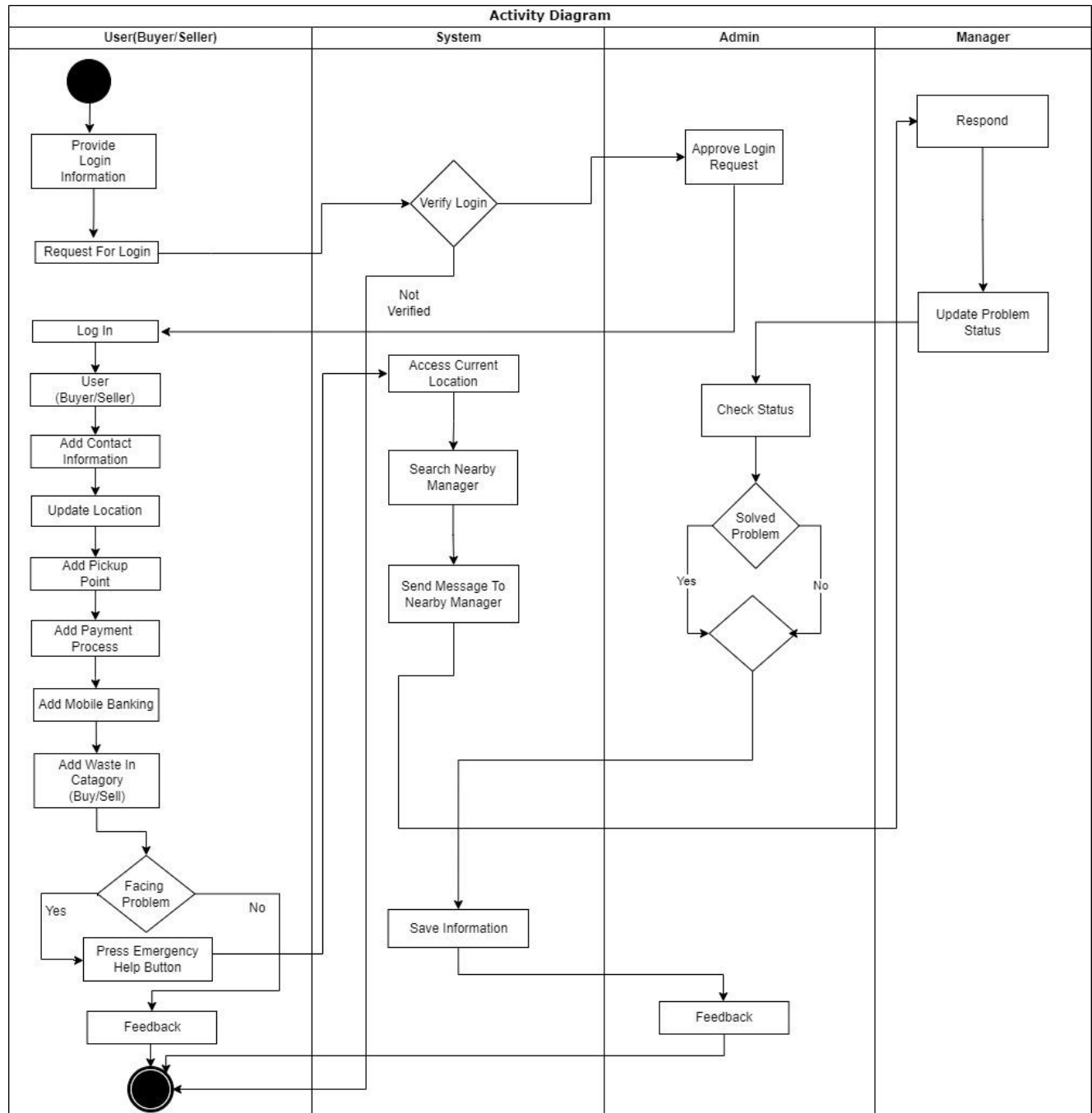
2. Activity Diagram: (Without Swim lane):
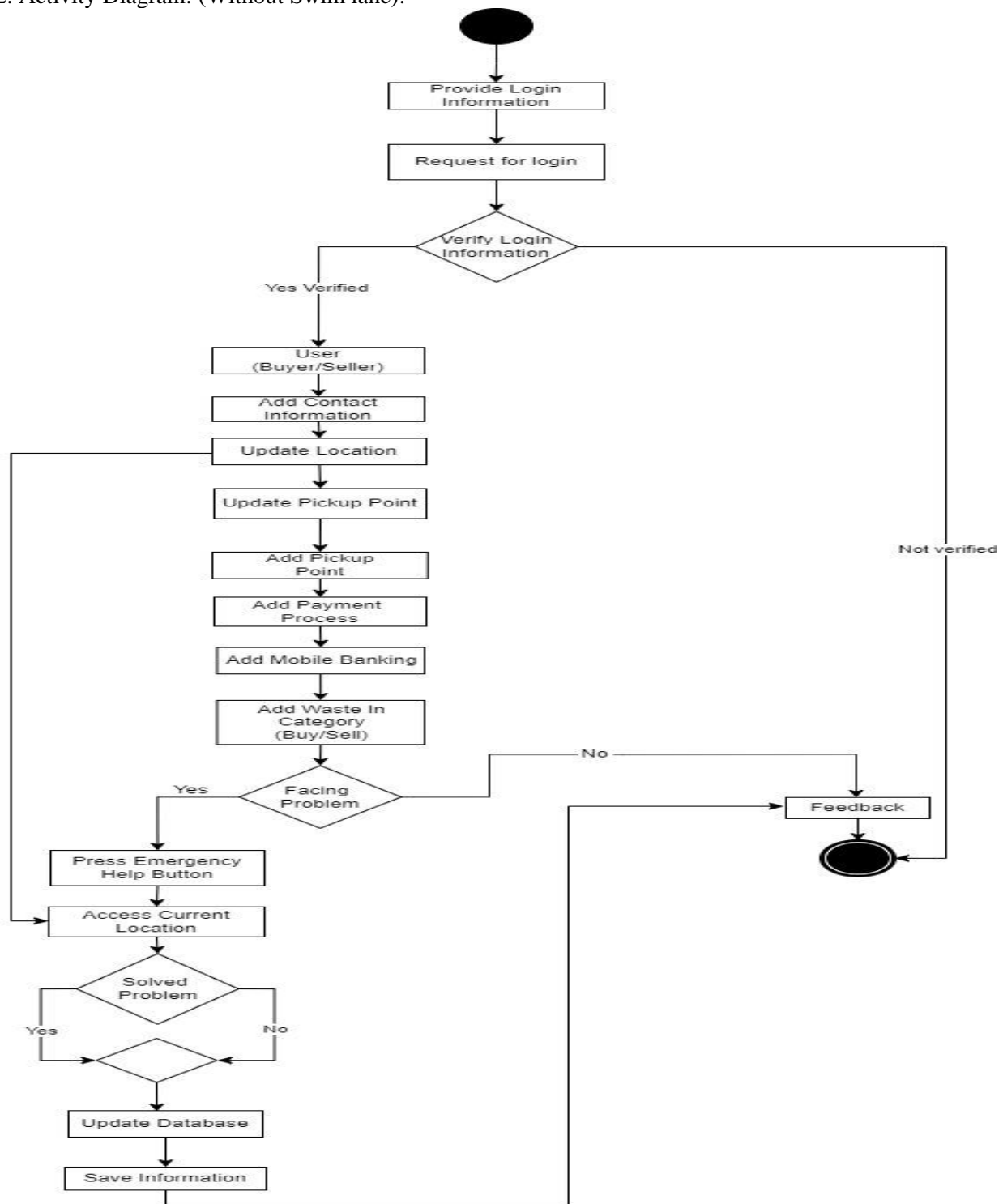
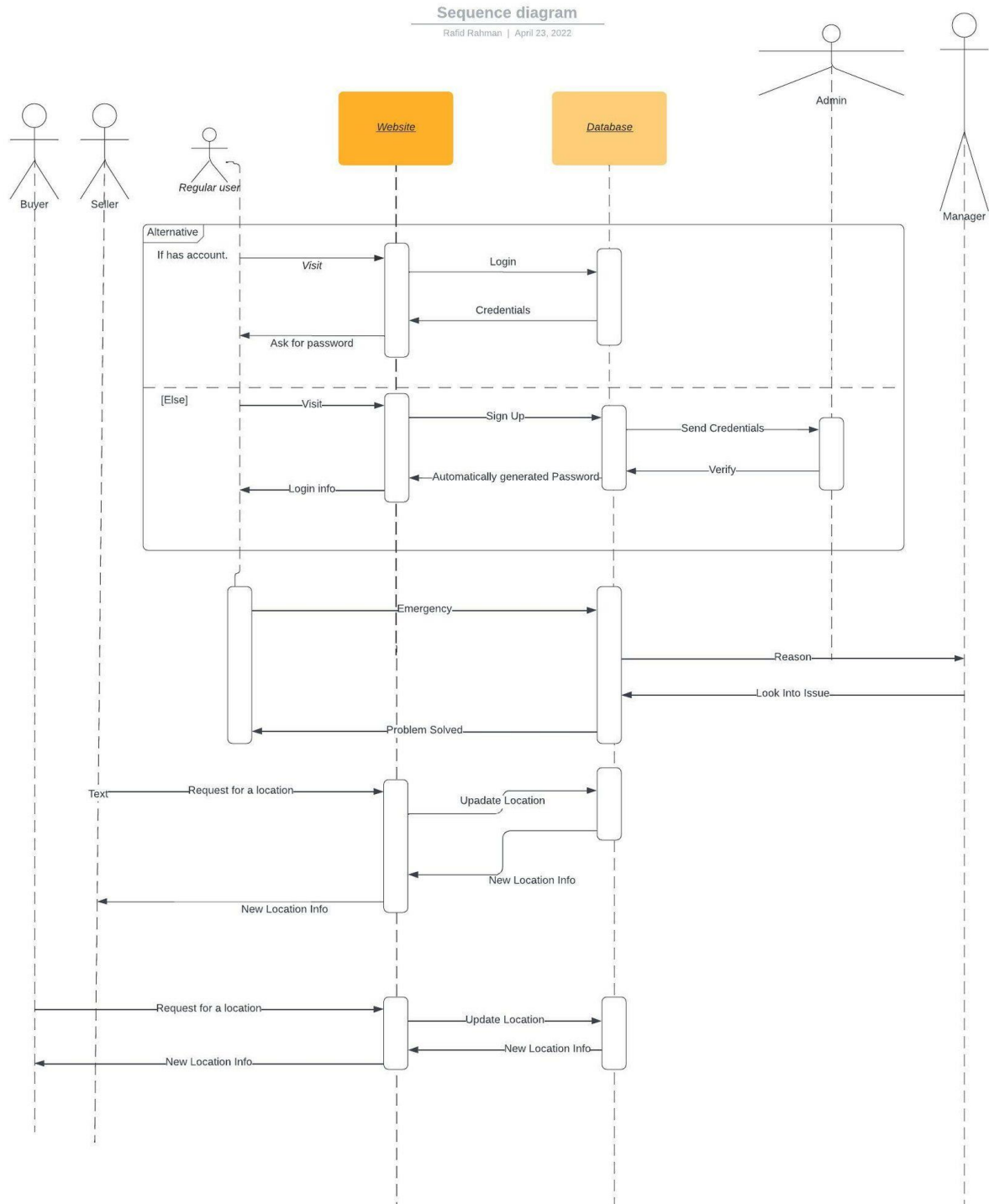Link: https://drive.google.com/file/d/1v4n_-Jxpm7gJnjf9zWv8JSS01XpII9c-/view?usp=sharing

3. Activity Diagram:(With Swim lane)

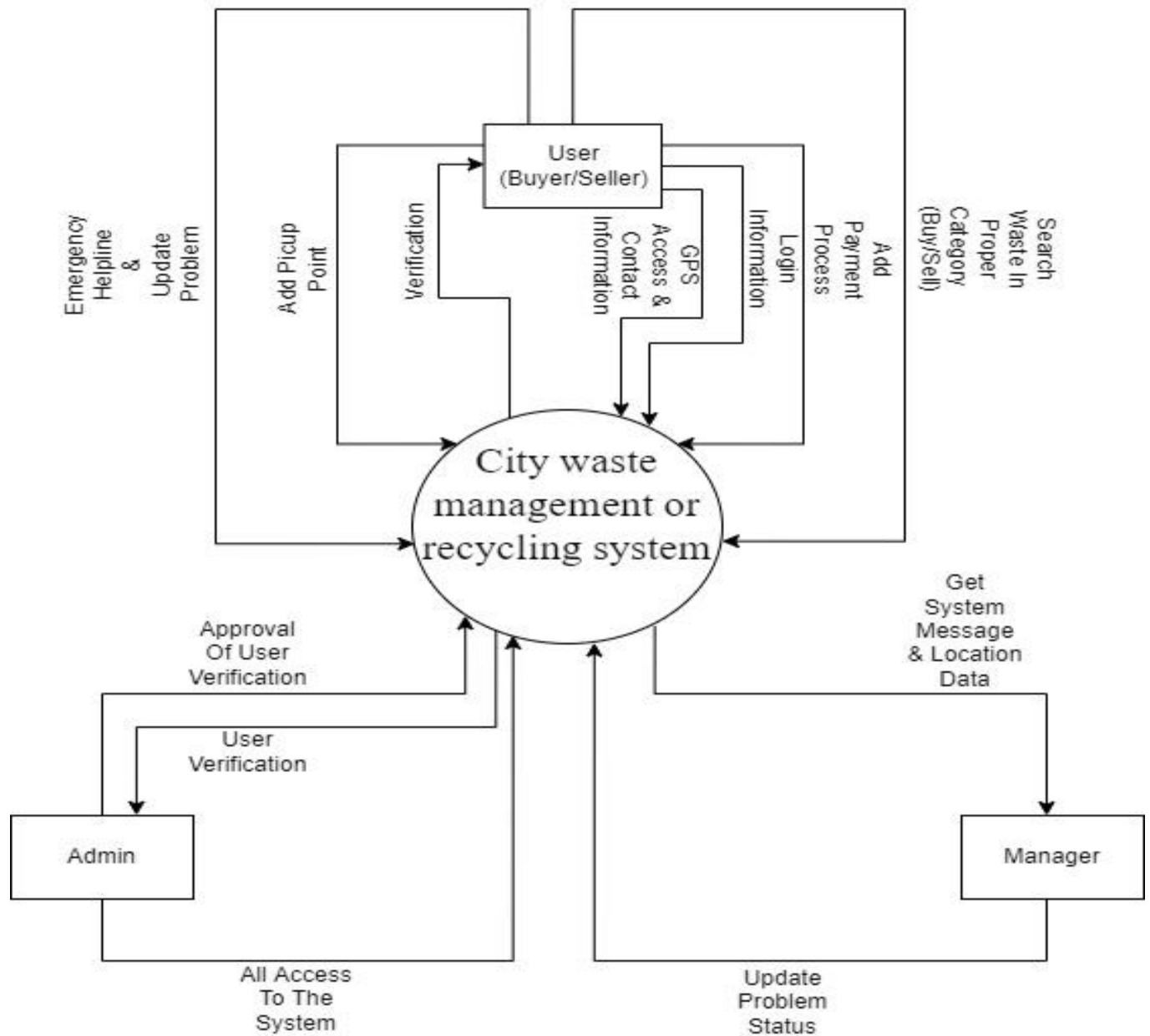Link: https://drive.google.com/file/d/1NGMfny7RT8tGdV3PTRLLiuah-YmNULjP/view?usp=sharing

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4. Sequence Diagram:

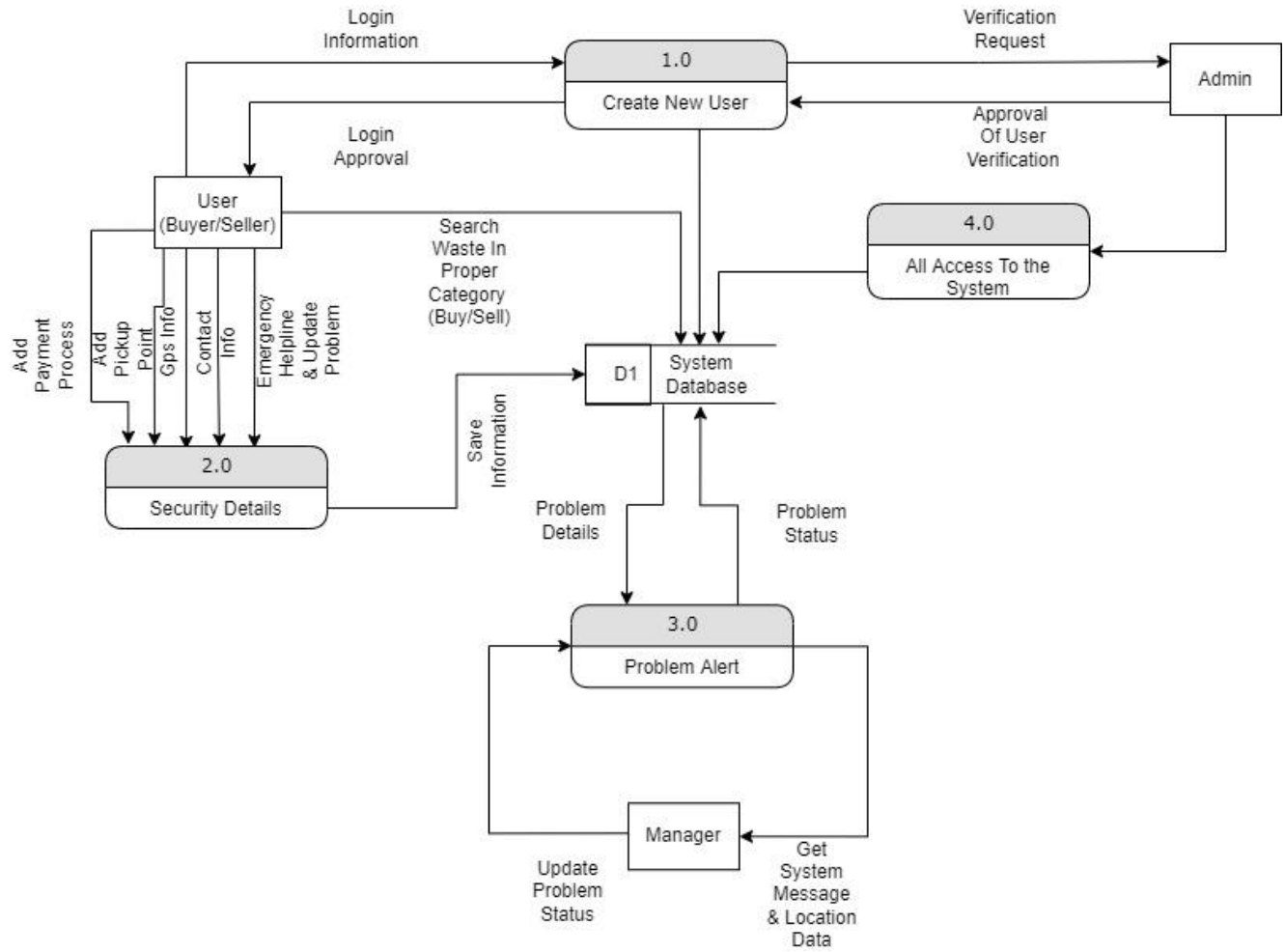Link: https://drive.google.com/file/d/1QMH6wrIGSAyQfNrDDJrV0VsLaOqMu1-u/view?usp=sharing

5. Data Flow Diagram(Level-0)

Link: https://drive.google.com/file/d/1ZcBL9pWGuntKcC6zS7KDUp8AuS7tr2RD/view?usp=sharing

6. Data Flow Diagram(Level-1)
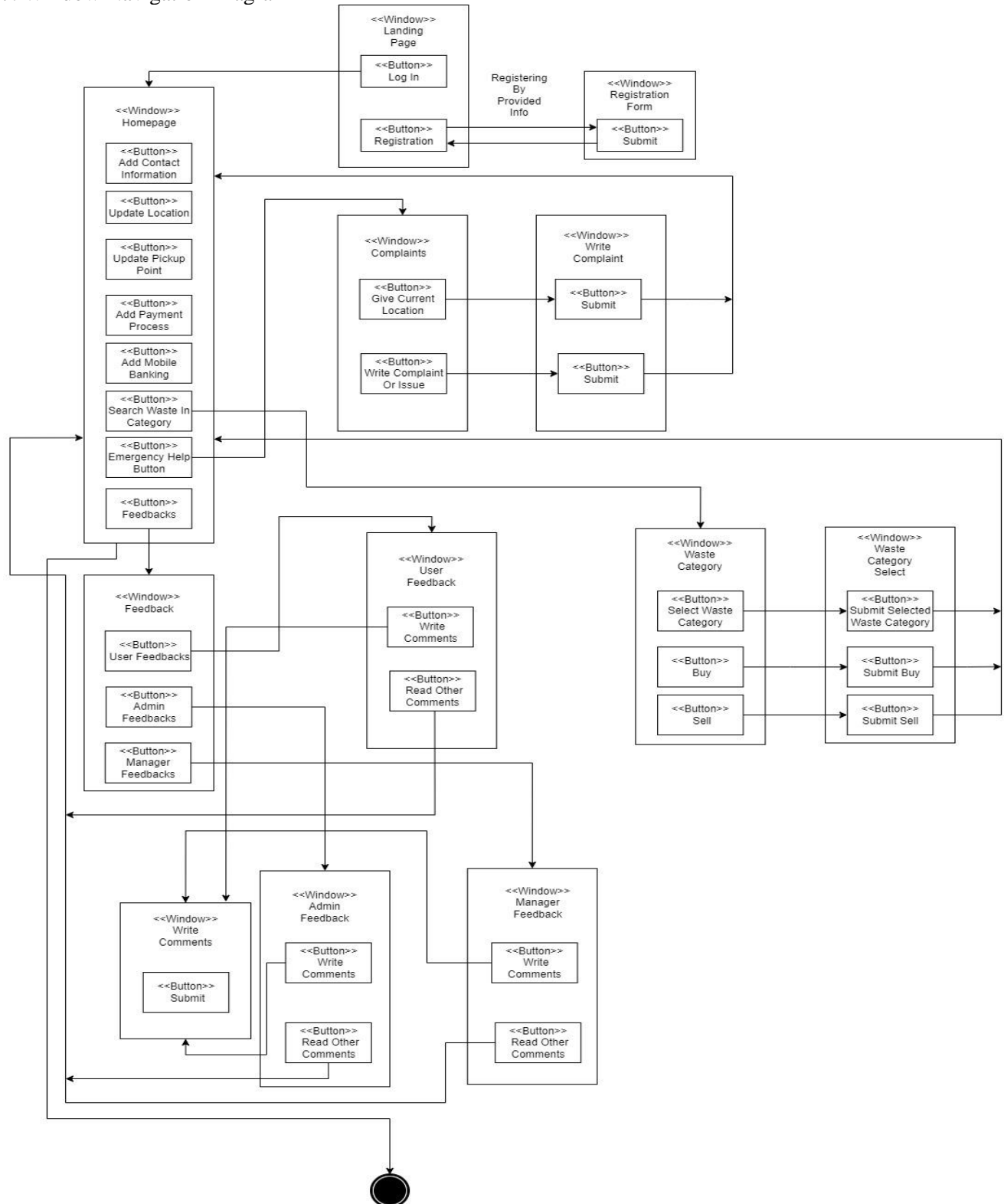

Link: https://drive.google.com/file/d/1WfwOX7uwF03194q4O9iOyMJdoPyOJyAg/view?usp=sharing

7. Window Navigation Diagram

Link:

Conclusion:

By the help of this website we strongly believe that the problem regarding waste management will widely solved. As people think waste useless but this system will help people to earn profit from something which they think useless. Also, the waste management issue will be widely solved in the city corporation and city areas as it will be recycled and used in different purposes. We will receive some wonderful results if we follow every phase of the project. To summarize, I believe that managing everything is critical to achieving the desired level of success.