

Software Requirements Specification

for

RecycleIT Website

Version 2.2

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Revision History

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1. Introduction

1.1 Purpose

This document is for a website project where users find companies to recycle their waste. It has been prepared to specify the requirements of the “RecycleIT Website” software project.

1.2 Scope

The RecycleIT Website offers a wide range of solutions for unsalable finished products, liquid waste, supermarket waste, agricultural waste, by-product, and ingredient waste. A new website will be developed within the scope of this project. The user will be able to filter on the home page. Thus, the user will be able to see the companies included in the list by entering the waste type, waste amount and location information on the site. The user can choose the company they want. In addition, the user will be able to look at the preliminary evaluation scores of the companies. Will be able to evaluate the service received. They can get information about companies, register on the website, and get quotes for their recycling needs. The user will be able to follow all messages, including the price offer, on the messages page. You can find all questions and answers about companies on this page. The user will also be able to send the type and amount of waste to the company in the form of pictures, video, and audio. Thus, there will be a more understandable agreement with the company. If the user agrees with the company, he can make the payment through the website. The user can choose the company that is suitable for the features he has filtered by looking at the overall evaluation score. If the user does not like the company's offer, they can make an offer. The user can add images, video, and audio to the offer. After bidding, the user should follow the result in the messages section. Once accepted, they can make the payment using online payment. The user can evaluate the service received. Artificial intelligence supported suggestions will be placed on the Website Main Page.

1.3 Definitions, Acronyms, and Abbreviations

RecycleIT: RecycleIT Website Development Project

1.4 References

1. "IEEE Guide for Software Requirements Specifications," in *IEEE Std 830-1984*, vol., no., pp.1-26, 10 Feb. 1984, doi: 10.1109/IEEESTD.1984.119205.
2. BRUSAW, C. T., ALRED, G. and OLIU, W., *Handbook of Technical Writing*, New York, St. Martin's Press, 1976.

1.5 Overview

This SRS contains all requirements and constraints of RecycleIT project.

- Section 2 describes the general factors that affect the product and its requirements.
- Section 3 contains all the details the software developer needs to create the software.
- Section 4 defines technologies, infrastructure, performance, scalability, quality attributes, and other non-functional requirements.

2. General Description

2.1 Product Perspective

RecycleIT is a website where users can get information about the company and the system can make recommendations based on users' preferences. User and administrator account required and is a free application.

2.2 Product Functions

This product will have the functions below:

1. The user encounters an interface where he can create an account or log in to his account.
2. The user can specify the type of waste.
3. The user can select the waste zone.
4. The user can enter the amount of waste into the system.
5. The system can advise the user on recycling using the information entered.
6. The user can choose from the listed companies and prices.
7. The user can contact the company the user chooses.
8. The user can request detailed information about the services.
9. The administrator can create postings for users.
10. The administrator can choose the most suitable category for the recycle or create it if there is no suitable category.
11. The administrator must specify the details of the service.
12. The administrator should share contact information for users.

2.3 Users and Characteristics

It will be used by Doftdare Company employees and stakeholders by creating an account. The user has basic computer and telephone skills. It is intended for all users over the age of 18. Users love nature.

2.4 General Constraints

- a. This product is a new and independent product to be developed as a web application.
- b. Natural colors should be preferred in the interface design of the project.
- c. The theme color of the application is green.
- d. The size of the photo, video, and audio content of how the service is realized can be a maximum of 100 MB.
- e. Users and administrators can create a password of up to 8 characters, and passwords can contain numbers, uppercase and lowercase letters.
- f. Post can be text, image, video, audio, or file in any format.
- g. The product default language will be English and Turkish, but since other languages will be added in the future, the language infrastructure should be designed as extensible.
- h. The system is expected to be used by 1000 users per hour.
- i. The administrator can post a maximum of 100 ads.
- j. The product must support the SQL server infrastructure.
- k. Administrators' contact information must be verified.
- l. Messages between the user and the administrator must be encrypted.

2.5 Assumptions and Dependencies

For password management, third party tools like KeePass can be used in the future. End-to-end encryption method can be used to encrypt messages. Further information and scenarios about this integration will be provided by Doftdare Company.

3. The Specific Requirements

3.1 External Interface Requirements

3.1.1 User Interfaces

3.1.1.1 Home Page

The home page is an interface where popular companies are listed, the user can filter their waste, the companies are listed because of the filtering, and users can enter any company that appears on the home page. Mandatory fields for this page are popular companies, the filtering interface, and the companies that appear because of the filtering. Image 1 is the wireframe design of the Home page.

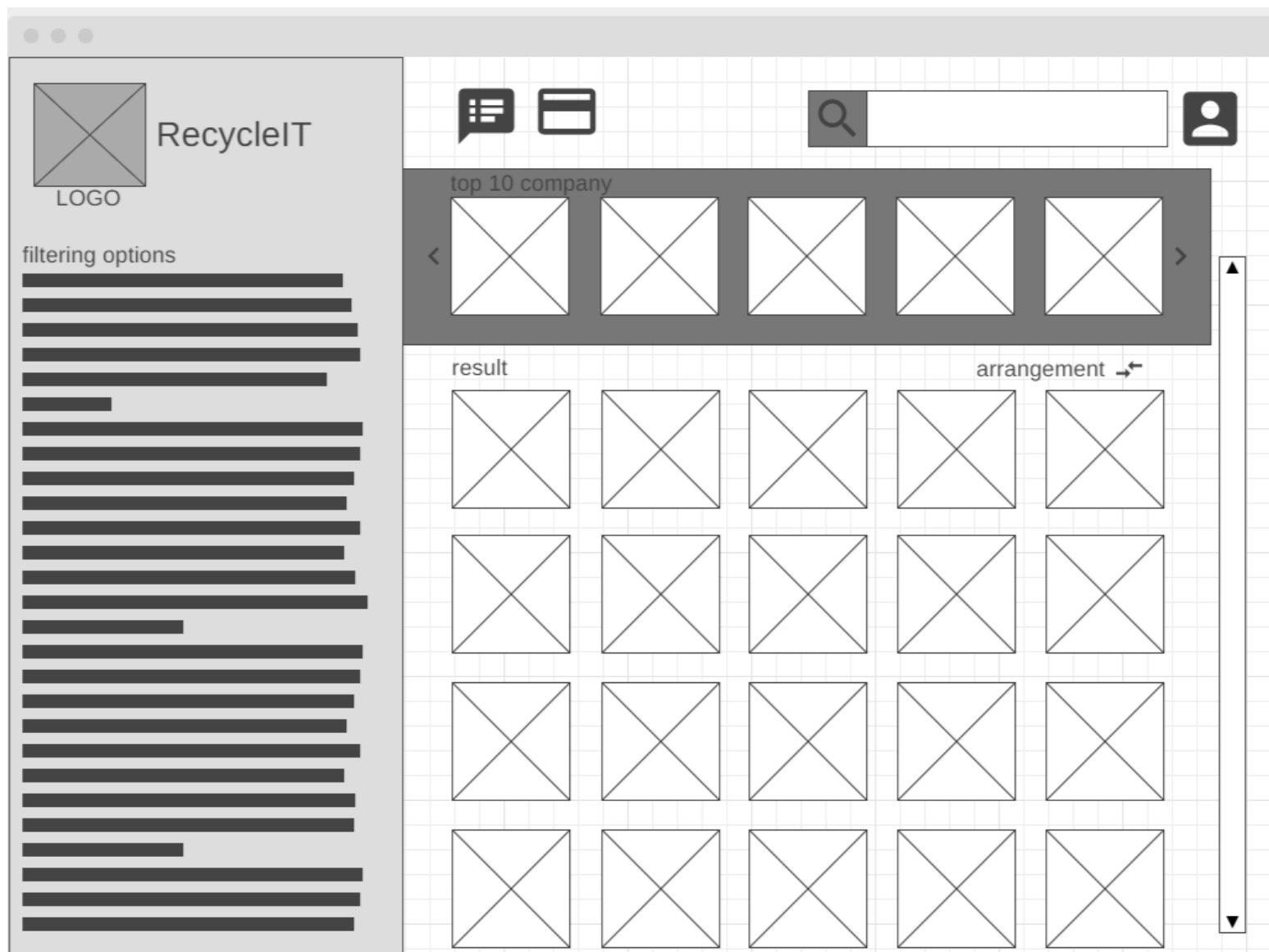


Figure 1: Home Page for User Wireframe

3.1.1.2 Sign-Up Page and Login Page:

The Sign-Up page is an interface where users and administrators can create their accounts. Mandatory fields on this page are the user's name, surname, e-mail address, phone number and password. Account creation is successful after user and administrator provide required and valid information and click "Sign Up" button. Image 2 is the wireframe design of the Sign-up page.

The Login page is an interface where the user and administrator can log into their accounts. Required fields for this page are User e-mail address and password. After the user and administrator provide valid information and click the "Login" button, the account is successfully opened. Image 3 is the wireframe design of the Login page.

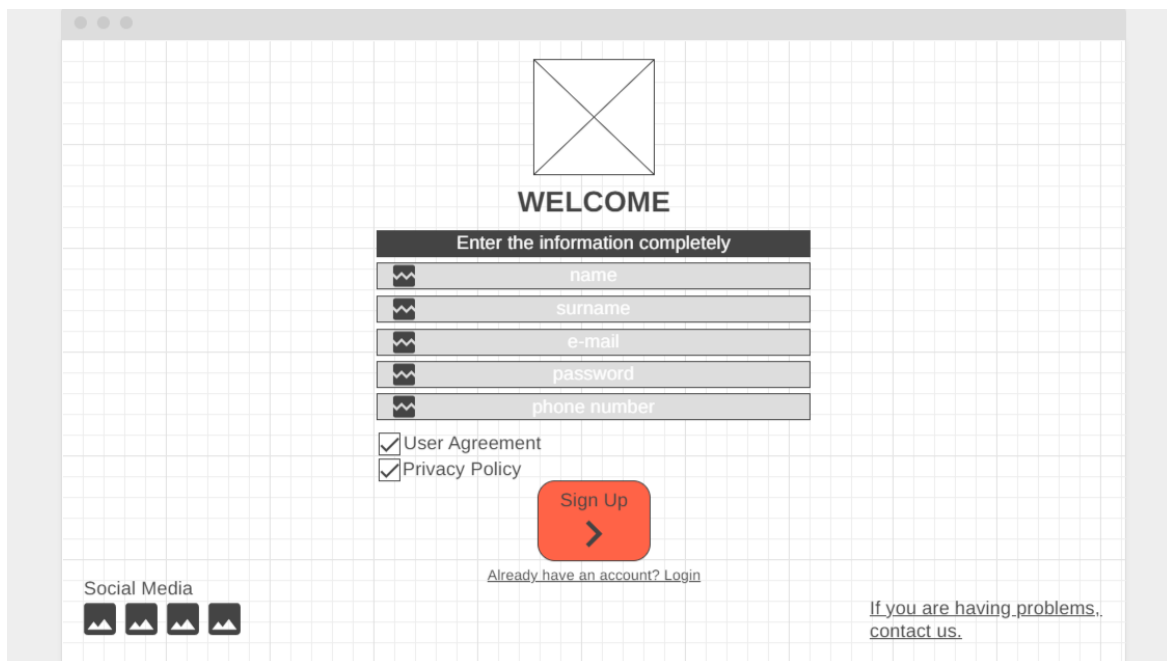


Figure 2: Sign Up Page for User Wireframe

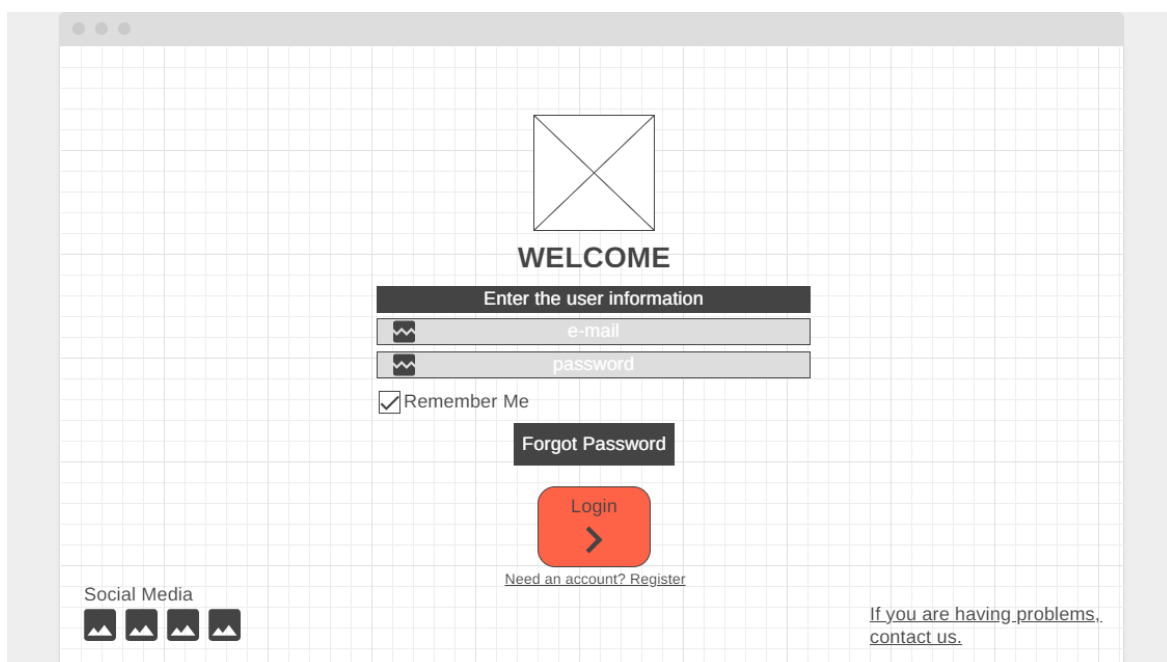


Figure 3: Login Page for User Wireframe

3.1.1.3 Request A Quote Page:

Request offer page is the page where the user sees the ready offer of the company according to the determined waste criteria. If the user doesn't like the offer, the user can bid. The user must include a detailed description and documentation when bidding. The user will follow the offer in the "message" section.

Mandatory fields on this page are company information, waste and region information, company's offer, and payment button. If the user doesn't like the offer, the required fields are the description section, attach document, user's offer and submit button. Image 4 is the wireframe design of the Request A Quote page.

HOME LOGO USER

REQUEST A QUOTE

RECYCLING DETAILS

Recycle Waste Type

Recycle Waste Amount

Region

Company Information

The Company's Offer

PAY >

Make A Price Offer

Explanation

SEND

*Follow the company's response in My Messages

Figure 4: Request A Quote Page for User Wireframe

3.1.1.4 Contact Us Page:

The Contact Us page is the page where the user examines the company details. On this page, the user can find all the information about the company. The user can learn the services of the company.

Mandatory fields on this page; company logo, company name, company history, company services, company score given by other users, button for comments from other users and company contact information. Image 5 is the wireframe design of the Contact Us page.

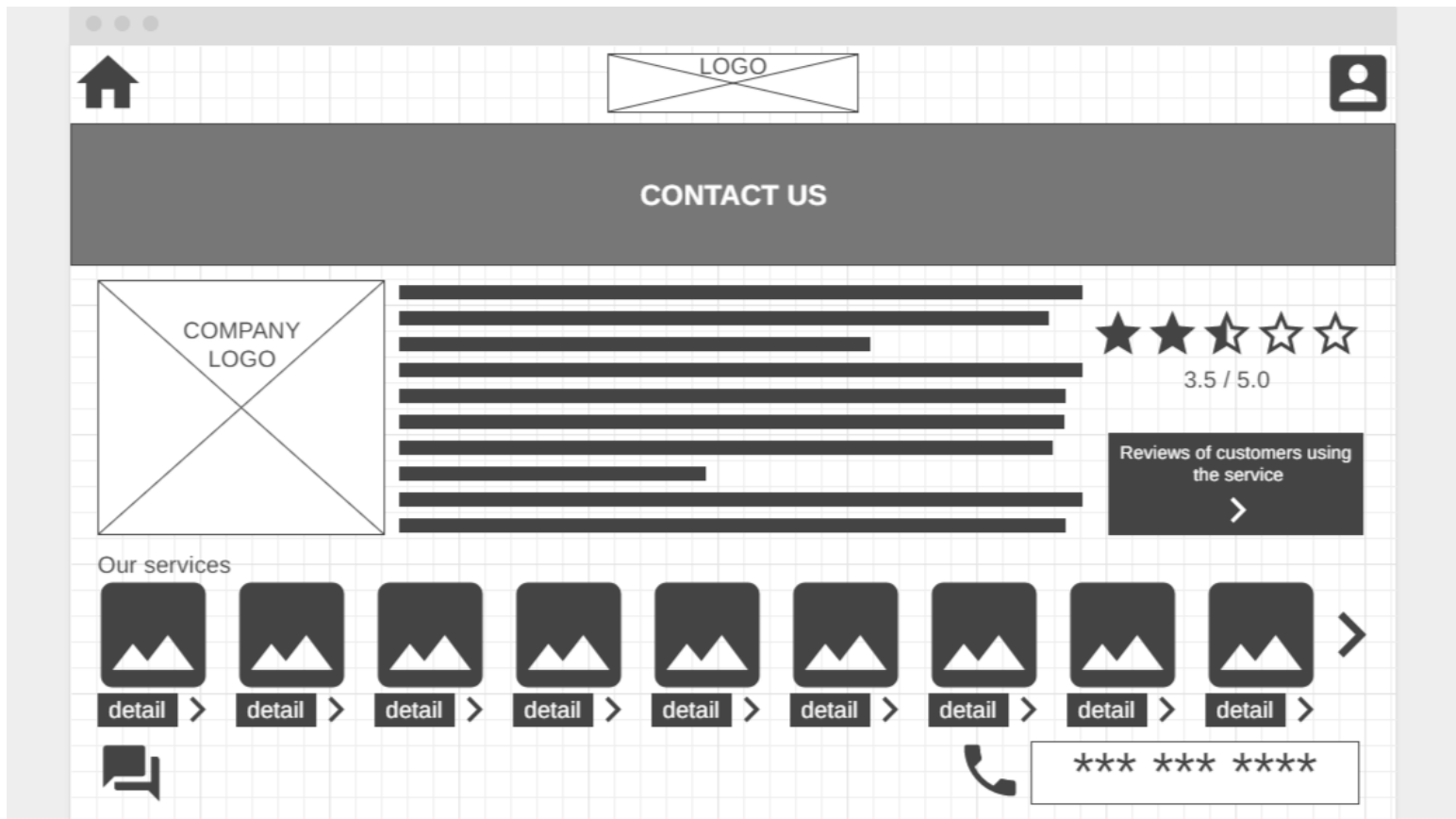


Figure 5: Contact Us for User Wireframe

3.1.1.5 Services Page:

The Services page is the page where the user examines the company's services in detail. On this page, the user can find all the information about the company's services. The user can see pictures of the company's services and watch their videos.

Mandatory fields on this page; company logo, company name, company services, photos, and videos of company services. Image 6 is the wireframe design of the Services page.

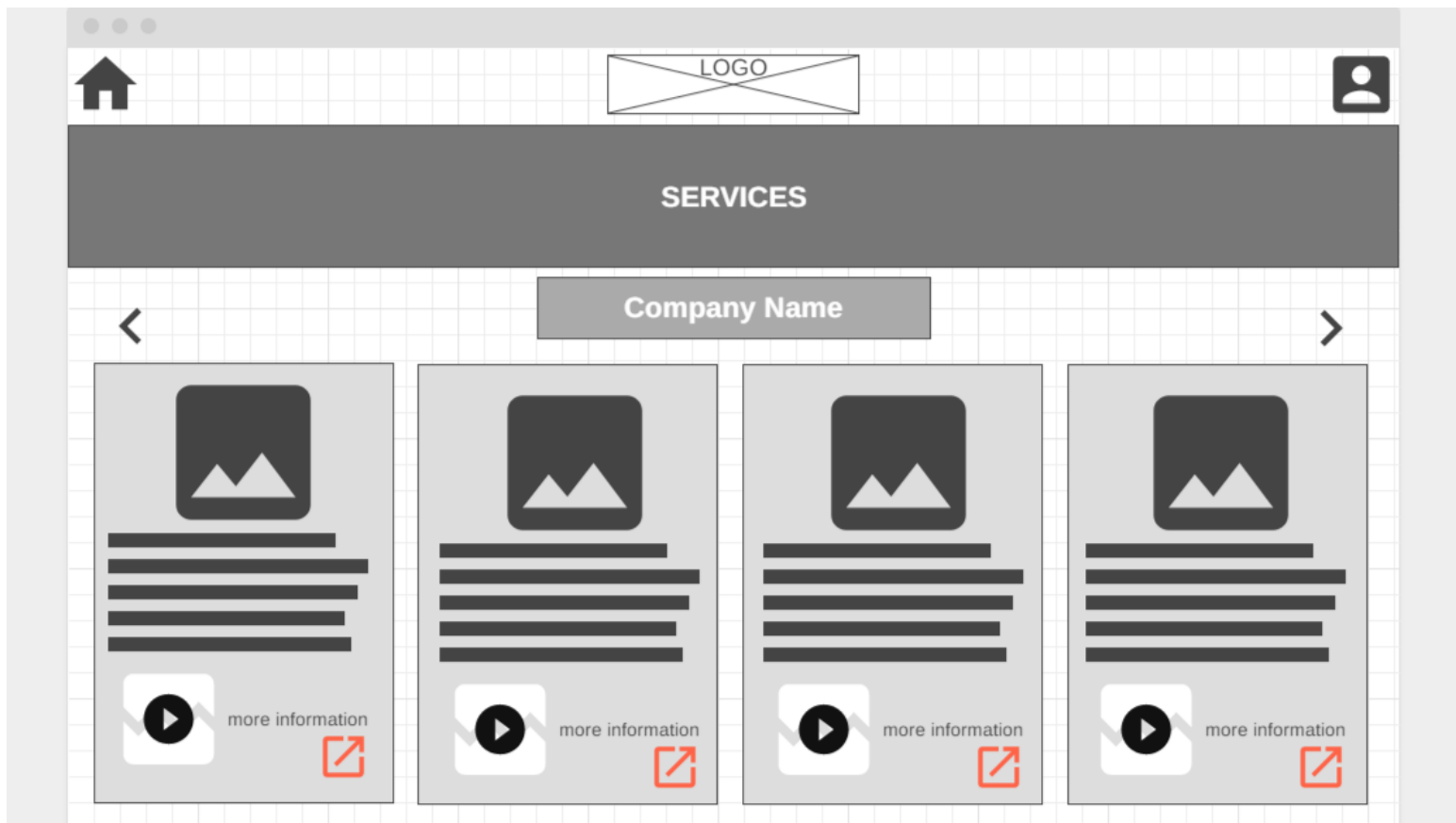


Figure 6: Services Page for User Wireframe

3.1.1.6 Message Page:

The Messages page is the page where the user continues to communicate with the companies. It is a page where the user can ask questions about the company's history, services, policies and get answers. The user can ask anything he/she is curious about the company. User can review previous messages. The user can use legal documents as "evidence" when necessary.

Mandatory fields on this page; The interface where the companies sending messages are listed is the company logo and name. There are also buttons for typing messages and attaching documents. Image 7 is the wireframe design of the Message page.

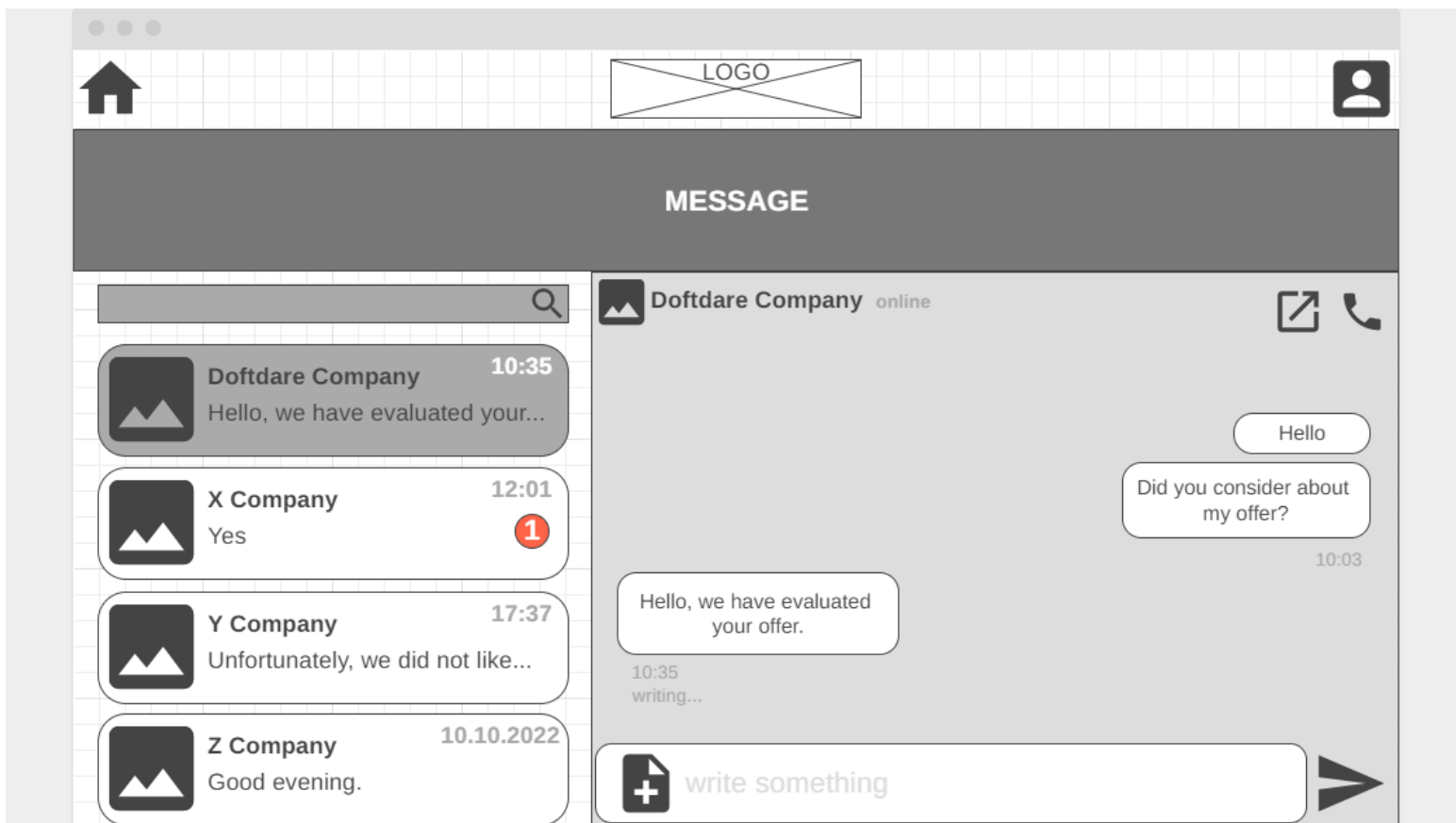


Figure 7: Message Page for User Wireframe

3.1.2 Hardware interfaces

There are no interfaces

3.1.3 Software interfaces

There are no interfaces

3.1.4 Communications Interfaces

This product features account-based authorization and authentication. You cannot use this service without creating an account. Post can only be shared by administrators. Secure post creation, storage and access should be considered as part of the software architecture at the design stage.

3.2 Functional Requirements

In this part, the functional requirements for the “RecycleIT” project will be defined by system features and the major services provided by the product. The use-case diagram below (Image 8) demonstrates the users and their operations in high level.

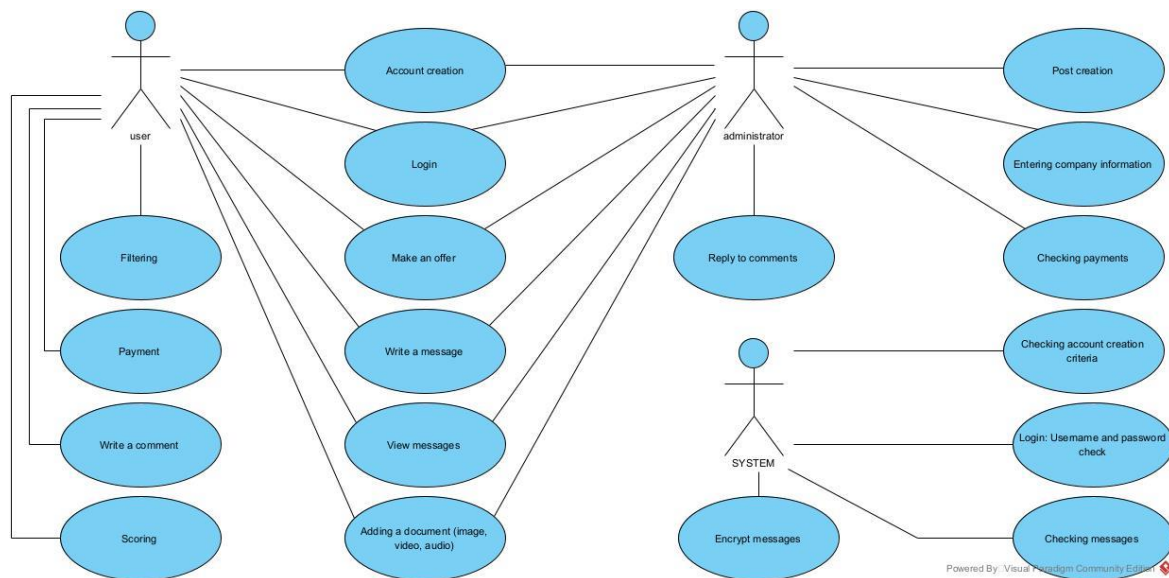
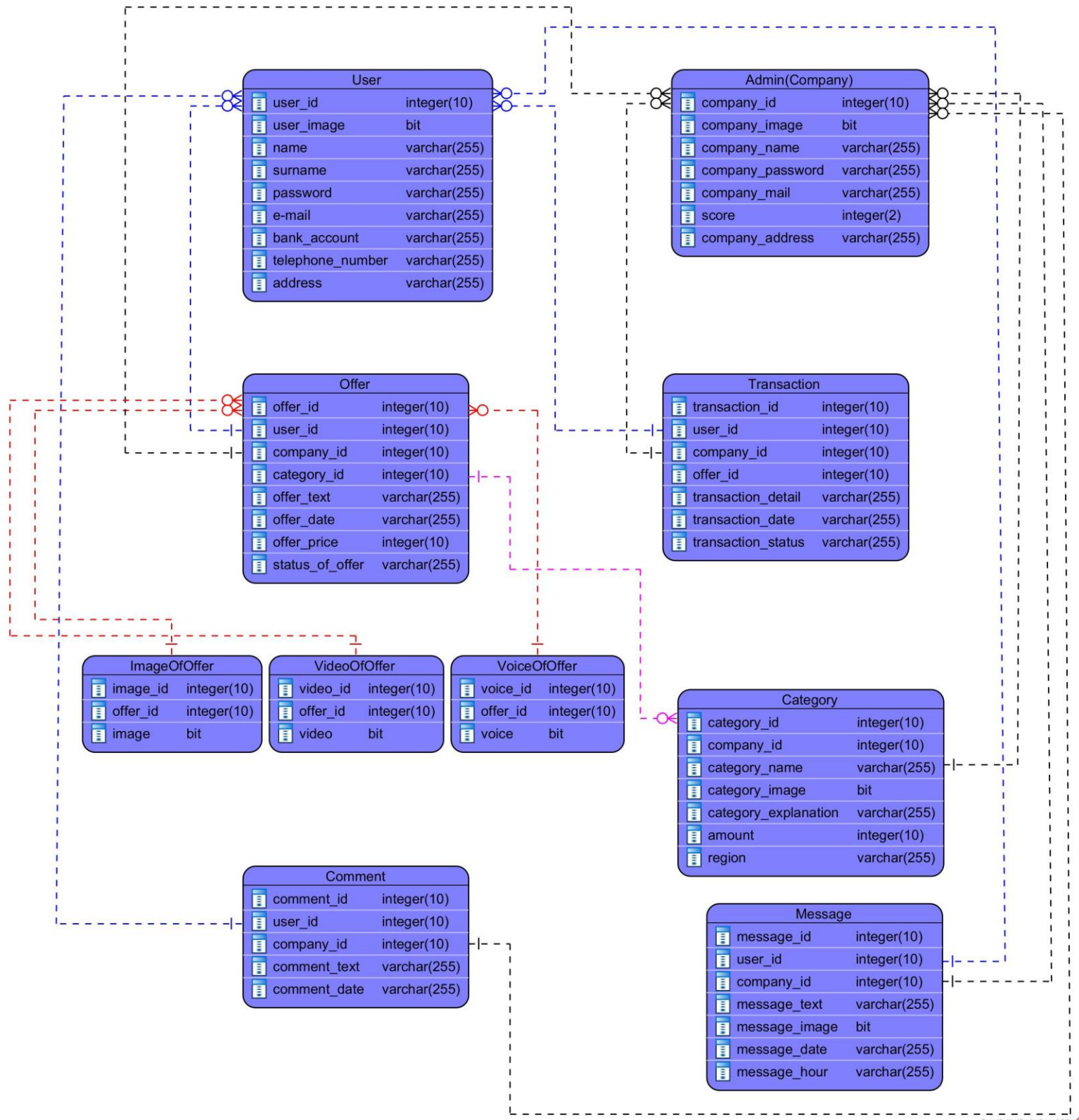


Figure 8: Use-Case Diagram for RecycleIT



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Figure 9: Data Base for RecycleIT

3.2.1 Message

3.2.1.1 Description and Priority

Message sending is a system feature that keeps the user and administrator in touch. Sent messages are controlled by this feature. Control criteria are determined by the system. Messages are encrypted with this system feature.

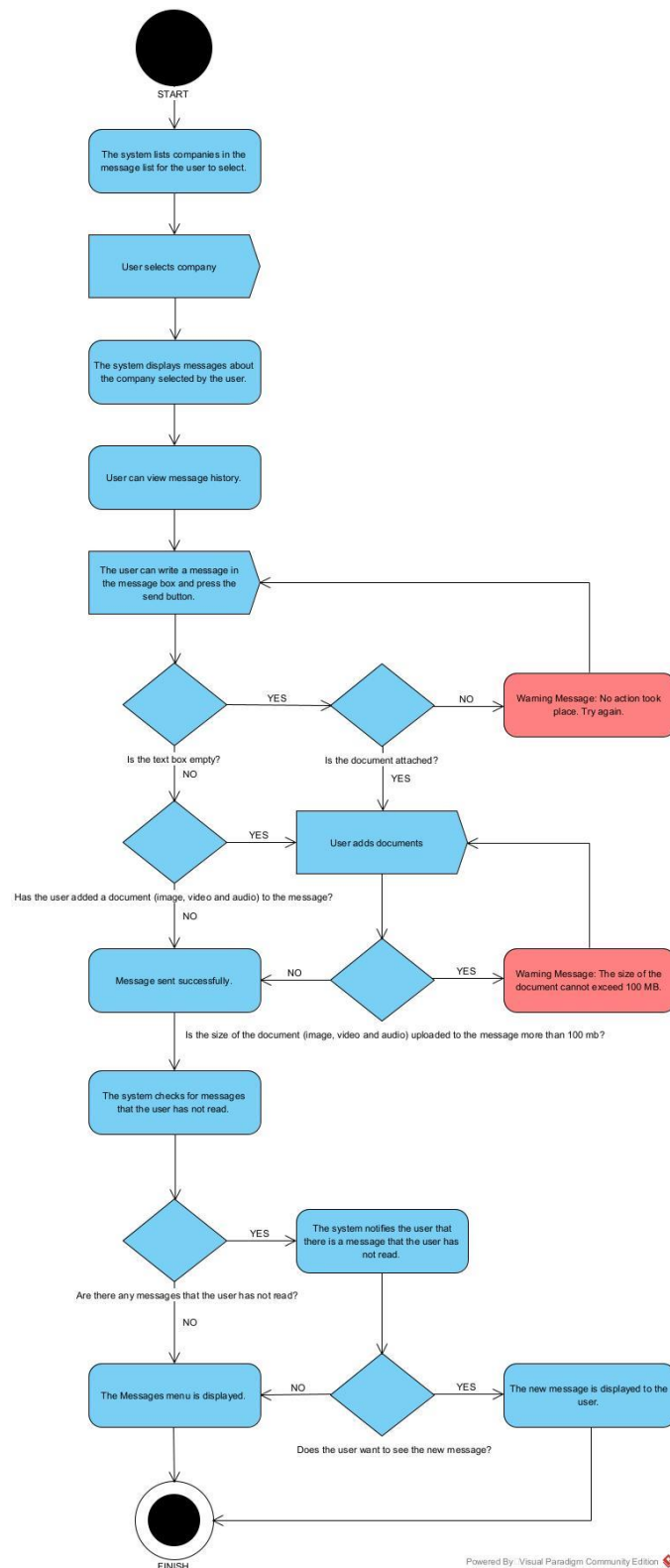


Figure 10: Activity Diagram for Message

3.2.1.2 Stimulus/Response Sequences

The sequences of user actions and system responses are listed below:

1. User: Can choose any company.
2. System: If the user selects a company, it opens the required page.
3. User: Can view past messages.
4. User: May want to write a new message.
5. System: Checks if the message box is empty.
6. System: Controls document attachment if the message box is empty. If it is not in the document, it gives a warning message. (No action took place. Try again.)
7. System: If the message box is full, it asks if the user wants to add a document.
8. User: User can add documents.
9. System: Controls the size of the inserted document. It gives a warning message if the size of the document exceeds 100 MB. (The size of document cannot exceed 100 MB.)
10. User: The user clicks the send message button.
11. System: Notifies the user when the message has been sent successfully.
12. System: Notifies if there is a message that the user has not read.
13. User: The user may want to go to the message he has not read.
14. System: Creates and displays the new message interface to the user.

3.2.1.3 Functional Requirements for Login and Sign Up

The functional requirements for the “Message” feature are listed below:

- ❖ REQ-1: User can start messaging with companies by selecting the company they want.
- ❖ REQ-2: If the user selects a company, the system opens the current page.
- ❖ REQ-3: User can see past messages, if any.
- ❖ REQ-4: User writes new message. The system makes the necessary checks.
- ❖ REQ-5: The system repeats the process when it detects any error.
- ❖ REQ-6: User can attach document to message. The system checks the size of the document.
- ❖ REQ-7: The system repeats the process when it detects any error.
- ❖ REQ-8: Message is sent when all criteria are met.
- ❖ REQ-9: Messages are sent encrypted by the system.
- ❖ REQ-10: The system notifies the user that the message has been sent.
- ❖ REQ-11: The system notifies the user when a new message arrives.
- ❖ REQ-12: User may want to see new message.
- ❖ REQ-13: The system opens the new message.
- ❖ REQ-14: The system constantly checks for messages.

3.2.2 Request A Quote

3.2.1.1 Description and Priority

Request A Quote feature is a feature where the user can see the company's offer and request a new quote with explanation when they don't approve the offer. There are no security measures other than blocking screenshots.

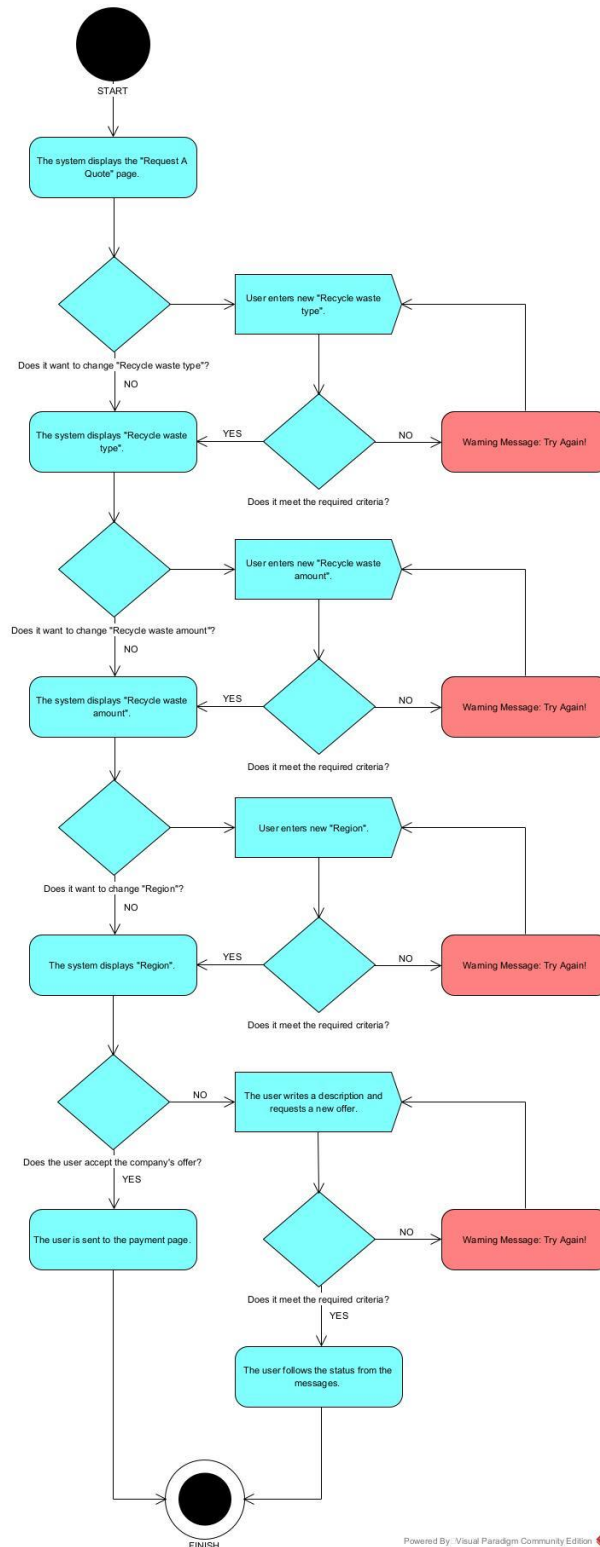


Figure 11: Activity Diagram for Request a Quote

3.2.1.2 Stimulus/Response Sequences

Sequences of user actions and system responses is listed below:

1. User: Opens the "Request Quote" page.
2. System: Displays the "Request Quote" page to the user.
3. User: "Recycle waste type" can be updated.
4. System: The system checks for the update. If it does not meet the criteria, it gives an error message. (Try again.)
5. User: "Recycle waste amount" can be updated.
6. System: The system checks for the update. If it does not meet the criteria, it gives an error message. (Try again.)
7. User: "Region" can be updated.
8. System: The system checks for the update. If it does not meet the criteria, it gives an error message. (Try again.)
9. System: Shows the company's offer to the user.
10. User: If the company does not approve the offer, they can create a new offer.
11. User: Must write a description for the new offer.
12. System: Gives an error message if the description field is empty. (Try again.)
13. User: documents can be added to the description (image, video and audio)
14. System: Checks the size of the inserted document, if any. It gives an error message if the size of the documents exceeds 100 MB. (The size of the document cannot exceed 100 MB.)
15. User: Enters the requested offer.
16. System: Checks the new bid. If it does not meet the criteria, it gives an error message. (Try again.)
17. System: Activates the submit button when all conditions are met.
18. User: Clicks the Send button.

3.2.1.3 Functional Requirements for Solve Test

Functional requirements associated with the "Request A Quote" feature is listed below:

- ❖ REQ-1: Displays the system offer page to the user.
- ❖ REQ-2: User "Recycle waste type" can be updated.
- ❖ REQ-3: The system checks for the update.
- ❖ REQ-4: User "Recycle waste amount" can be updated.
- ❖ REQ-5: System checks for update.
- ❖ REQ-6: User "Region" can be updated.
- ❖ REQ-7: The system checks for the update.
- ❖ REQ-8: The system shows the company's offer to the user.
- ❖ REQ-9: The user may not approve the offer.
- ❖ REQ-10: If the user finds the offer appropriate, he or she will be directed to the payment page.
- ❖ REQ-11: The user must write a description for the new offer.
- ❖ REQ-12: Can add documents to user description (image, video, sound)
- ❖ REQ-13: The system checks the size of the content added by the user.
- ❖ REQ-14: Submit button becomes active when all criteria are met.
- ❖ REQ-15: User clicks the submit button.
- ❖ REQ-16: The user follows the company's response from the messages.

4. Other Nonfunctional Requirements

4.1 Performance Requirements

- Photo, video, and audio content of how the service is performed can have a maximum size of 100 MB.
- Users and administrators can create a password of up to 8 characters, and passwords can contain numbers, uppercase and lowercase letters.
- The system is expected to be used by 1000 users per hour.
- Admin can post up to 100 ads.

To make the product usable in all conditions, all performance measures must be adjusted for maximum data size and maximum user frequency.

4.2 Security Requirements

This product should run only in HTTPS. Any data transferred to or from the server should be encrypted. Decryption key should not be stored in the server. It is expected to encrypt messages using the science of cryptography.

4.3 Software Quality Attributes

Product should have following quality attributes:
ability to achieve the purpose with the least effort and time,

- easy to use,
- easy to remember,
- satisfying design in the first use,
- allowing the users to take back their mistakes,
- preventing mistakes,
- a pleasant user experience,
- encrypted messaging.