Problem Statement and Goals
Software Engineering

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Table 1: Revision History

Date	Developer(s)	Change
September 20, 2022	Joy Xiao	Problem statement and stakeholders
September 23, 2022	Leon So	Update problem
September 23, 2022	Joy Xiao	Add stretch goals and update stakeholders
September 23, 2022	Leon So	Add inputs and outputs
September 25, 2022	Leon So	Add hardware and software environment
...	...	...

1 Problem Statement

[You should check your problem statement with the problem statement checklist. —SS] [You can change the section headings, as long as you include the required information. —SS]

1.1 Problem

Independent auto repair shops do not have an efficient way of reaching and interacting with new customers. Currently, many independent shop owners rely on word-of-mouth referrals as a main channel to acquiring new customers. Independent auto repair shops are also spending a significant amount of their time on administrative work such as managing appointments and providing quotes. As a result, independent auto repair shops have a difficult time competing with larger repair shops which have dedicated systems and services in place.

On the other hand, customers do not have an effective way to find and compare auto repair shops. Currently, one of the only ways to compare repair shops is by manually searching or reaching out to repair shops one-by-one. This process can often be repetitive and time-consuming.

1.2 Inputs and Outputs

1.2.1 Inputs

1. Auto repair shop account details including shop name, shop owner first and last name, address, phone number, email, password, and hours of operation

2. Customer information including full name, phone number, email, and password

3. List of available services for each auto repair shop

4. Schedule of availability for auto repair shops

5. Quote request details including car make and model, problem description, images

6. Selected time slot for service appointments

7. Estimate information including price and estimated time

8. Work order information including estimated time, progress, parts used, cost of labour and parts

9. Chat messages between auto repair shop and customers

10. Search keywords for filtering service providers

11. Customer's location for searching and filtering for nearby auto repair shops

1.2.2 Outputs

1. View of appointments booked for shop owners

2. View of quote request for shop owners

3. View of appointments booked for customers

4. View of quote request submitted for customers

5. List of auto repair shops based on search keywords and filters inputted by customers

6. View of work orders and corresponding details for shop owners

7. View of work orders, corresponding details, and progress updates for customer

8. Chat view for both shop owners and customers

9. [Stretch Goal] Notifications to auto repair shops when a quote request is received

10. [Stretch Goal] Notifications to vehicle owners when a quote is received, work is completed/assigned, or an appointment has been created or updated

1.3   Stakeholders

- Vehicle owners
- Auto repair shop owner
- Auto repair shop employees
- Sayyara (the company)
- Nabeel Ibrahim (project supervisor)
- Tiny Coders (developers of the project)

1.4   Environment

1.4.1   Hardware

- The application will be supported for desktops, laptops, tablets and mobile devices.

1.4.2   Software

- The application will be supported on Google Chrome, Firefox, and Microsoft Edge.
- The application will be supported on Windows and MacOS.
- The application will be supported on Android and iOS mobile devices and tablets.

2   Goals

3   Stretch Goals

- Deploy application and server to the cloud.
- Have a notification system to notify when a quote has been requested, when appointments are created or updated, and when a service job is completed/assigned to a technician.

- Include a reviews component to create reviews and view auto shop reviews. This way customers can see past reviews before determining if they want to book an appointment with a specific shop.