Vision and Scope Document

for

SharEat

Version 1.0 approved

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Table of Contents

Revision History

Name	Date	Reason For Changes	Version
Group M	20.09.21	Initial draft	0.1
Group M	01.10.21	Implemented feedback comments	1.0
Group M	13.10.21	Updated major features	1.1

1. Business Requirements

<u>**Stakeholders**</u>
    a.   Food provider
- Individual - Rewards: Discount coupons/ vouchers at restaurants specific to the user collected via targeted ads)
- Organization (Restaurant) – Brand value improvement (efforts to reduce greenhouse emission, working towards sustainability goals – hunger), higher placement in ads (depending on previous recipient ratings)

    b.   Food recipient – Food at subsidized prices, Meeting like-minded people

    c.   Business
- SharEat (Middlemen – us/ project group)
  - i. Offerings
    1. Employment opportunities – Drivers for pick-up and drop service
    2. Connecting food provider and recipient via the SharEat app
    3. App management for continued security, additional features and enhanced safety
  - ii. Profits (almost a non-profit)
    1. Revenue from ads
    2. Paid membership plan
       a. Offering food delivery pick-up and drop service.
       b. 2x credit points returned per share
    3. Free membership plan
       a. Personally exchange the food at either recipient's or provider's home/ some other safe place, public place
       b. 1x credit point returned per share

    d.   Advertisers
- Ad slots for advertisers – powered by Google Ads, etc.
- Ad slots prompting users to upgrade to premium membership plans

1.1. Background

Nowadays global food waste has become a huge problem and with COVID-19 it has made the situation worse. According to the United Nations Environment Program research, have found that an estimated 931 million tons of food end up in the trash every year. SharEat addresses this problem by starting from reducing food waste in restaurants, cafes, and grocery stores. SharEat empowers users to share surplus food.

1.2. Business Opportunity

Some of the existing food sharing apps including Olio, ResQ, Too good to go, etc., face the following shortcomings:
- Smuggle/ Misuse using the overall product weight
  - o In the case of food donations, 1.2 pounds is considered a meal by the U.S. Department of Agriculture, regardless of what type of food — or beverage — it is.
  - o A company could technically donate 500 pounds of sauce and have it count as 417 meals.
- Safety/ Security risks involved in meeting a stranger
- Lacks any method for rating the food and its provider – Segregating good from bad providers
- Most work as non-profit. Very little to no monetary rewards for the provider.

SharEat overcomes the above limitations in the following manner:
- A Food recognition module – The module capable of food-type classification (I.e., food/ beverage, and detecting type of food – apple, sandwich, pie, etc.); and food quantity/ size estimation from the picture captured by the food provider.
  - Some manual checks might be needed, food recognition can be cheated. SharEat employees can check maybe like every 50th listing
- The use of SharEat's exclusive delivery personnel lowers safety/ security risks
- Mandatory food rating by the recipient.
  - Consecutive poor ratings given by a recipient can be monitored by the app and notified to the backend team for further inspection, and possible banning of user (phone/ email-id) from SharEat services
  - Consecutive poor ratings received by a provider can be monitored by the app and notified the backend team for further inspection and possible banning of the user (phone/ email-id) from SharEat services.
- Cashbacks, discount vouchers for restaurants

1.3. Business Objectives and Success Criteria

Business Objectives	Completion Criteria	Measure of Business Success
• Reduce food wastage • Increase the revenue by reducing food waste	• Reduce the monthly food wastage to at least 50 %. • Earn revenue for the given away food	• Reduce food wastage to at least 25% • Turns the lost revenue from unsold meals into an extra revenue stream by bringing in customers who pay real money for surplus food

1.4. Customer or Market Needs

Food wastage is a common problem faced at restaurants, cafeterias, and grocery stores. The wasted food which otherwise holds huge revenue potential is instead left unutilized and finds the dumpster. A hearty meal is rarely affordable, especially in big/ expensive areas.

1.5. Business Risks

1. Non-existent rating service for the received food
   a) Rating food is essential for segregating the good from bad providers

   Mitigation plan
   i) Repeated poor ratings given by a recipient can be monitored by the app and notified to the backend team for further inspection, and possible banning of user (phone/ email-id) from future SharEat services
   ii) Consecutive poor ratings received by a provider can be monitored by the app and notified the backend team for further inspection and possible banning of the user (phone/ email-id) from SharEat services.

2. Misuse the platform
   a) Smuggle goods
   b) Misuse the platform by listing bulk/ wholesale non-meal items (e.g.: ketchup sachets, cheese) and trick the overall product weight

Mitigation plan
A food recognition module
i) The module capable of food-type classification (i.e., food/ beverage
ii) Recognizing food type – apple, sandwich, pie, etc.
iii) Food quantity/ size estimation from the picture captured by the food provider.

3. Lack of trust from customers
   a) Most competitors work non-profit
   b) People might not find the app to be worth their time and effort

Mitigation plan
Offering incentives to the customers in the form of cashback, discount vouchers, etc.

2. Vision of the Solution

Reinvent food consumption that encourages people (rather, heroes) to share excess food and help combat hunger.

2.1. Vision Statement

For sustainability conscious individuals looking to sate their hunger, SharEat is an application that provides a platform for restaurants and private individuals to find a home for their excess meals. This helps reduce overall food-waste in society as well as providing additional revenue streams from meals that would've otherwise been thrown out with the garbage. Unlike other similar services, our application puts a higher emphasis on customer and provider satisfaction in an effort to make it as simple as possible to find the best meals time after time.

2.2. Major Features

Core features for the mobile device:
1. User accounts
2. Browse map to find food offerings (food map)
3. Buy food with easy online payment
4. Add a new listing / food item
   - Users can add a new listing with pictures and descriptions
5. Rate the food
6. Admin accounts for deleting and handling the users and listing
7. Serving ads

2.3. Assumptions and Dependencies

The mobile application will be made with React Native and Typescript, to make it easier to deploy to both iOS and Android devices. For the backend servers we will be using Express - Node.js framework and Typescript and MongoDB for the database. AWS will be used for hosting the backend and the database to make the application scalable.

Other Dependencies/Libraries
- Google Maps API
- Google Ads

3. Context Diagram
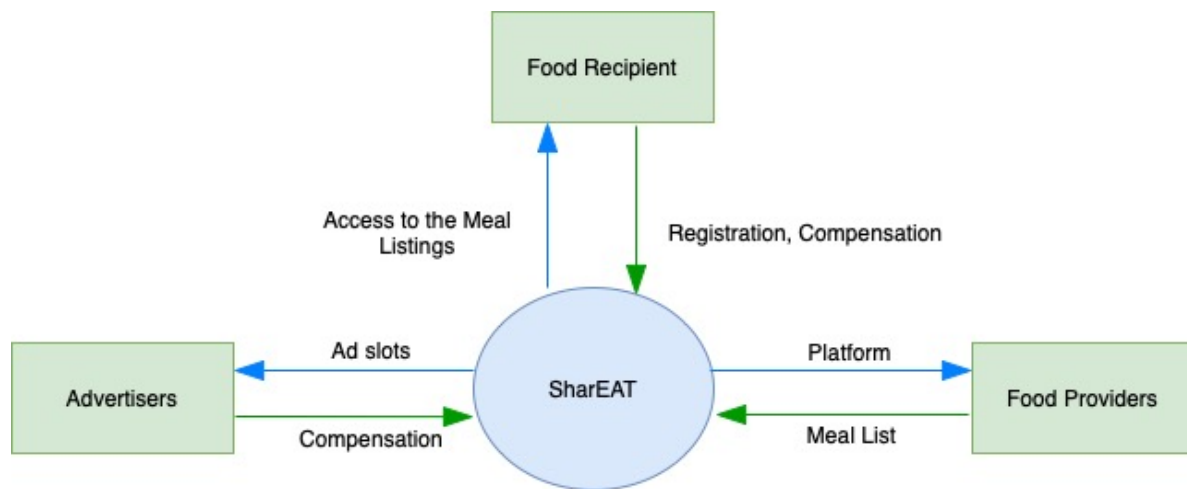
4. Scope and Limitations

4.1. Scope of Initial Release

Initial release of the software will take place in Q1 2022. The following major features will be included:

1. Browse a list of nearby food offerings and make purchases. This list allows the user to:
    a. Select max distance to filter listings
    b. See some information about the listing: Distance, name, type, price.
2. Add a new listing
    a. Use GPS to find location
    b. Use a camera to take pictures of the food
    c. Input additional information into input fields
3. A web server and a database for handling user requests and data.
    a. For the web server we will use Express – Node.js
    b. MongoDB database will be storing the user data and food listings
4. Admin accounts for administrative purposes, where the admin can:
    a. Delete or ban users
    b. Delete food listings

4.2. Scope of Subsequent Releases

The second release of the software will be released in Q2 2022. It will contain subscription functionalities and other improvements.

1. Rate food
   a. Use stars and comment fields to add review for the food or for the user who made the food
   b. Display ratings for different users and foods and calculate their average rating
2. Start a subscription
   a. Use a credit card to join a subscription program
   b. Cancel subscriptions
   c. Preview subscription benefits before buying
3. Use Map view to browse nearby listings
   a. This map will use Google Maps inside the app, and display food listings when the map is scrolled/moved

4.3. Limitations and Exclusions

As the entire business platform is dependent on user inputs, without pre-defined listings, it will not be possible to provide search results. For example, for this app to work, we need a few restaurant partners from the beginning so that people can look for active listings from the initial phase.
The system will not include automatic image recognition for food pictures.

5. Business Context

5.1. Stakeholder Profiles

Stakeholder	Major Value	Attitudes	Major Interests	Constraints
Food providers	Increased revenue	Earn revenue for the given away food	Rewards: Cashbacks and vouchers	Privacy/ safety concerns
Food recipients	Food at subsidized prices	Very receptive to checking out subsidized quality food in the locality	Reduced food expenditure	Privacy/ safety concerns – personal and about food
SharEat	Revenue from ads, and membership plans	Scope for greater profit as product overcomes the challenges of competitors, hopefully resulting in greater market share	• The number of users • No. of premium users • No. of restaurant tie-ups	• Improving (Normalizing) the attitude towards left-over food • Increasing the **target audience** (not just students on tight budget, but working folks too) • Encouragement to reduce food wastage

5.2. Project Priorities

Dimension	Driver (state objective)	Constraint (state limits)	Degree of Freedom (state allowable range)
Schedule	release 1.0 to be available by 10/1, release 1.1 by 12/1	Time-constraint to launch the app with major features by the expected date	Release/ launch date can be pushed by a week or two
Features	UAM (User account management), Map showing food offerings, food listing and buying	Food recognition module	70-80% of high priority features must be included in release 1.0
Quality	Automated regression testing to monitor the app for any bugs/ crash	The app may be buggy, and users may face issues (OS incompatibility, localization, crash/ lag)	90-95% of user acceptance tests must pass for release 1.0, 95-98% for release 1.1
Staff	The team must consist of a PM, Team lead, 1 UI/ UX designers, 3 developers and 2 testers	Collaborative environment and working together to achieve the common project goal (meeting deadline)	Following agile methodology
Cost	USD 200K for the team management, app setup and maintenance	Securing funding from VCs (Venture capitalists)	Budget overrun up to 10% acceptable without executive review

5.3. Operating Environment

The product will be launched in Finland and its response across southern Finland will be first checked before scaling the app to support users across the country. Major cities like Lappeenranta, Tampere, Turku, Helsinki and Oulu will be targeted first.

The app can be used to search for subsidized food within 7 Kms of user's current location.
The app will auto-populate any new listings. The user cannot carry out more than one transaction at any given time (i.e., Provider can only list his food once; The recipient cannot buy more than one selected food at the same time). Successive transactions can be carried out only after the precious transaction and its rating has been completed successfully.

The SharEat datacenter may be located at Lahti, relatively equidistant from the major cities. The data (encrypted user credentials, profile) generated on user's mobile app will be shared with this datacenter.
All collected data shall be encrypted with high-security and ensure the GDPR (General Data Protection Regulation).

The user can request SharEat his collected data from the app and has an option to delete his account. Any account that is non-active for more than 3 months may be subject to auto-deletion, but in that event, can be re-registered as a new account.

Redundant datacenters may be added in future (based on the inter-city distance) to mitigate any downtimes during periodic maintenance, or in the event of technical failure at one of the datacenters. During regular/ everyday operations, the load will be shared by both to provide faster response to the user.

5.4. References

1. https://www.rts.com/resources/guides/food-waste-america/
2. https://www.greenpeace.org/international/story/45286/waste-not-want-not-addressing-food-waste-for-just-and-ecological-food-system/
3. https://www.forbes.com/sites/niallmccarthy/2021/03/05/the-enormous-scale-of-global-food-waste-infographic/