OuluEats – Mobile App

Software Plan

Introduction

The City of Oulu is known for its vibrant student life, and many new students from different parts of the world come here every year to pursue their education. One of the biggest challenges for these new students is to find their way around the city and discover the best places to visit. Our faculty student tutors have identified this issue and requested a map-based application to help guide new students to the most important places in Oulu.

The focus of this application will be on restaurants, as food is an essential aspect of the student experience. The aim is to create an interactive and engaging platform that provides a map-based introduction to selected restaurants in Oulu. The application will include reviews, ratings, photos, and videos for each restaurant, making it easier for new students to decide where to eat.

This software plan will outline the project scope, design and prototype implementation and Technical Requirements and Specifications. With this plan, we hope to convince potential investors and stakeholders to support the development of this application and make it a reality for the benefit of new students in Oulu.

Software Planning Process

The process of software planning typically involves several stages:

1. Requirements Gathering: This involves identifying the needs and requirements of the software by talking to stakeholders, end-users, and other relevant parties.
2. Feasibility Analysis: This stage involves evaluating the technical feasibility of the software, including the hardware and software requirements, as well as any potential risks or challenges that may arise.
3. Design: The design phase involves creating a blueprint for the software, including the architecture, user interface, and other key features.
4. Development: In this stage, the actual development of the software takes place, including coding, testing, debugging, and documentation.
5. Deployment: This involves releasing the software to end-users and ensuring that it is installed and configured correctly.

6. Maintenance: Finally, the maintenance phase involves ongoing support and updates to the software to ensure that it remains up-to-date and continues to meet the needs of users.

Project Scope

The project aims to create a map-based application that helps new students in Oulu find their way around the city and discover the best restaurants to visit. The following are the project objectives:

- To develop a user-friendly and visually appealing map-based application that introduces new students to the most important restaurants in Oulu.
- To provide detailed information on each restaurant, including reviews, ratings, photos, and videos, to help users make informed decisions about where to eat.
- To incorporate innovative features, such as augmented reality and gamification elements, to make the application more interactive and engaging for users.
- To ensure that the application is technically sound and meets high-quality standards, including ease of use and logical interaction.
- To incorporate some gamification aspects to increase user retention as well as attractiveness.
- To create a prototype that is ready for testing and presentation to potential investors and stakeholders.

The target audience for the application is new students in Oulu, who are looking for a comprehensive and interactive guide to the best restaurants in the city. The theme for the map-based application is restaurants, and the scope of the project includes selecting 5-10 restaurants and providing a map-based introduction to each restaurant, including text, pictures, and videos.

Design and Prototype Implementation:

The design and prototype implementation are essential in detailing the visual and interactive components of the map-based application. The following sections will outline the user interface design, navigation and interaction design and features and functionalities of the prototype.

User Interface Design:

The user interface design will be clean, simple, and modern. The color scheme will be consistent throughout the application, with the focus on the restaurant theme. The home screen will feature a map with pins marking the selected restaurants, and users will be able

to click on each pin to access information about the restaurant. There will also be a search bar and filter options to make it easier for users to find specific restaurants. The design will be optimized for both desktop and mobile devices.

Navigation and Interaction Design:

Navigation and interaction design will be intuitive and straightforward. Users will be able to access information about each restaurant by clicking on the corresponding pin on the map or using the search bar. Each restaurant's information page will include photos, videos, reviews, and ratings, allowing users to make informed decisions about where to eat. The application will also feature augmented reality elements, allowing users to view the restaurant's interior and menu items.

Features and Functionalities of the Prototype:

The prototype will include the following features and functionalities:

- Map-based navigation: The application will have a map-based interface that displays the selected restaurants with icons or markers. For inspiration UI/UX team may look into Wolt App interface. If the user clicks the restaurant, he should see it on the map (Split by category)
- Search and filter functionalities: The application will allow users to search, filter and sort the restaurants based on various criteria such as price, cuisine, distance, ratings, etc.
- Get Direction: The application should provide users with the ability to get directions to the selected restaurant from their current location. Need to show distance of restaurant clearly based on their location (and how long it takes to reach there by foot, bike, or transport)
- Augmented reality features: The application will also feature augmented reality elements, allowing users to view the restaurant's interior and menu items. (Just a button)
- Restaurant information pages with photos, videos, reviews, ratings, and menu with prices: The application should allow users to select a restaurant from the map and get detailed information about it, such as the restaurant's name, address, web page link, phone number, opening hours, menu, ratings, reviews, photos, and videos as well as the distance and the time that it takes to get there from your location.
- Option to save favorite restaurants: The application should allow users to save a restaurant in their favorites list.
- Option to leave reviews and ratings: The application should allow users to add their own ratings, reviews, and comments about the restaurants.

- Option to have a “I visited here” flag if they are near a restaurant.
- Integration with social media platforms (Twitter, Facebook, share button)/chat platform (WhatsApp, telegram): The application should provide users with the ability to share information about the restaurants on social media platforms and chat platforms as well as email.
- Gamification elements: such as earning points for visiting new restaurants and completing challenges. We may add a feature that recommends a restaurant.
- The users are required to sign up to the map through various methods. Either by email (student, personal) social media (Facebook, twitter) phone number, or by google account. However, they also have option to sign in by just being a visitor.
- The application should be user-friendly and easy to navigate, (All the apps should be intuitive. No instructions should be needed while using the app)
- There will be a manual or a master doc for the brand identity, which will contain fonts, color scheme, logo, position, general atmosphere of the app. The application should be visually appealing and attractive, with high-quality images and graphics.
- The application should be technically sound and of high quality, with no bugs, errors, or glitches. There will be a section where people can report bugs or any problems in the app. This can also include certain changes in restaurant location or time (opening and closing time)
- Trending list: The application could provide users with a Top list of restaurants that a lot of people have recently eaten (for example location data of people in google maps) and have gotten positive reviews.
- The restaurants will change their info when they need to.
- Opportunity for ads for restaurants for app monetization possibilities. (e.g. they can pay to be on the top of the list of restaurants, etc) Add when we’re done with the project

Technical Requirements and Specifications:

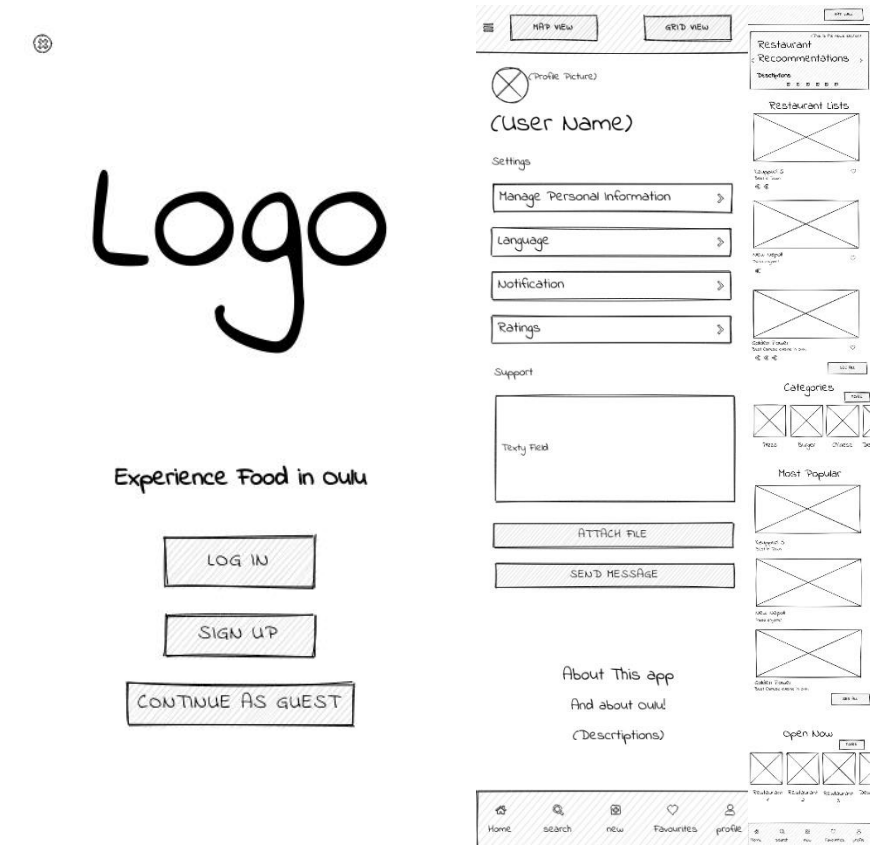
The application will be developed using modern programming languages and frameworks such as React, Xcode (iOS), and MongoDB. The application will be hosted on a cloud-based platform such as AWS or Azure, ensuring scalability and reliability. The application will be optimized for performance, with fast loading times and minimal latency.

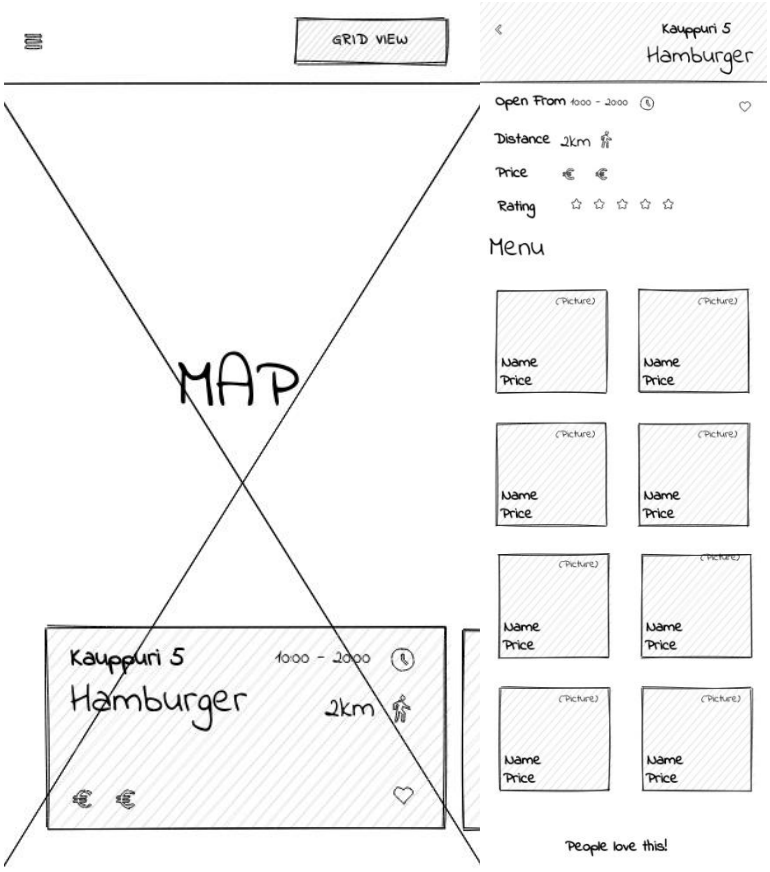
- Platform:
    - Android & iOS

    - Responsive website (Tablet, PC, phone). It should be accessible on all website platforms (Chrome, Firefox, Safari) as well as most common aspect ratio.
- Program language:
    - Initial prototype in picture form: Canva or Adobe Photoshop
    - App: React Native
- Hosting:
    - The app will use a cloud-based (Amazon Web Services or Azure) database to store restaurant information and user data. We will use a NoSQL database like MongoDB for this purpose.
- Security encryption methods:
    - User data will be encrypted in transit and at rest using SSL and encryption at the server level. Authentication will be managed using a third-party authentication provider like Auth0, which supports multiple authentication providers.
- API integration
    - Google maps (Location, map)
- Testing and Quality Assurance
    - The app will be tested using manual testing by the development team. We will also conduct user acceptance testing (UAT) to ensure the app meets user expectations.
- Release and Deployment
    - The app will be released on both the Apple App Store and Google Play Store. We will use Firebase App Distribution to deploy the app to testers and users. Updates will be managed through the app store and released on a regular basis.
- Maintenance and update
    - The development team will provide ongoing maintenance and support for the app to handle user queries and issues. We will use Firebase Crashlytics to monitor the app for crashes and errors and resolve them as quickly as possible
    - Fixing bug (Monthly)
    - Future upgrade (Half-Yearly)
    - Security update (Quarterly)
    - UI update (Quarterly)

Concept Art, Design & Prototype:

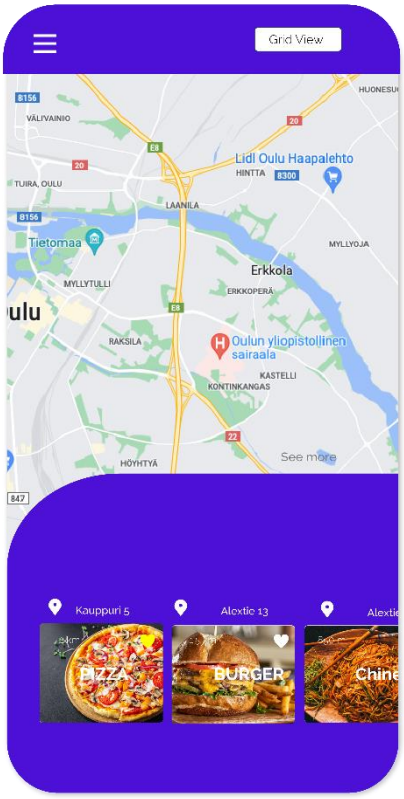
Wireframe:



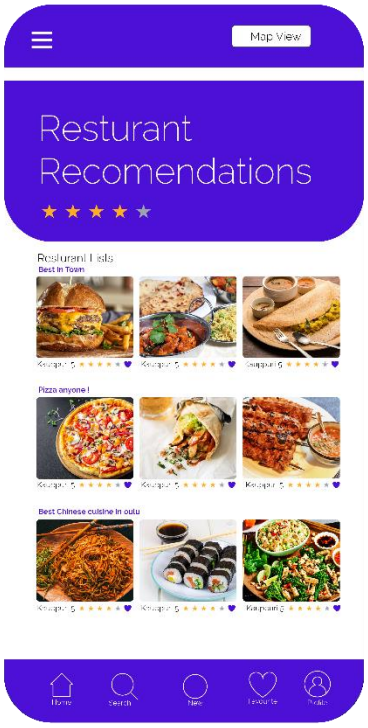


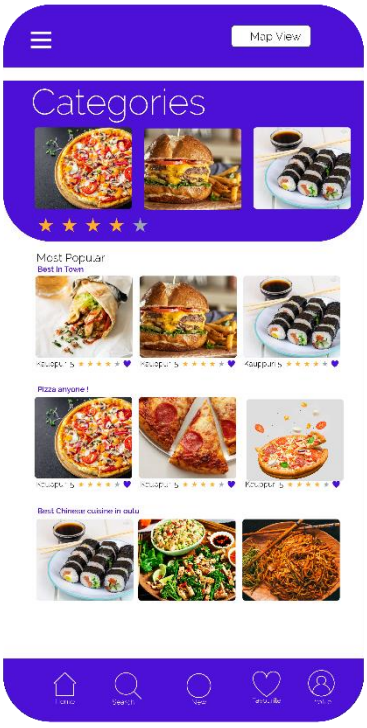
Design:

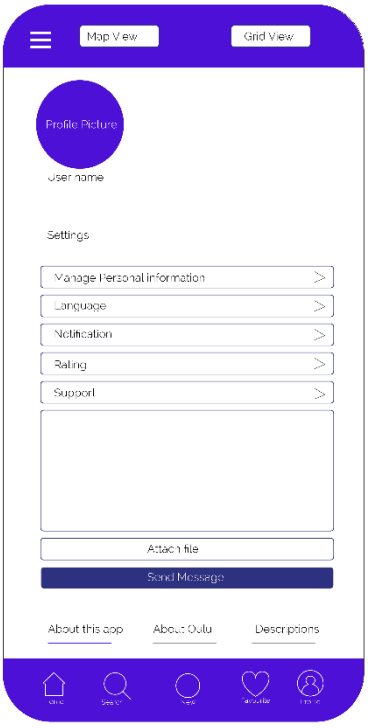

Experience
Food in Oulu
Log In
Sign Up
Continue as Guest


Grid View
Lidl Oulu Haapalehto
Tietomaa
Erkkola
Oulun yliopistollinen sairaala
See more
Kauppuri 5
Alextie 13
PIZZA
BURGER

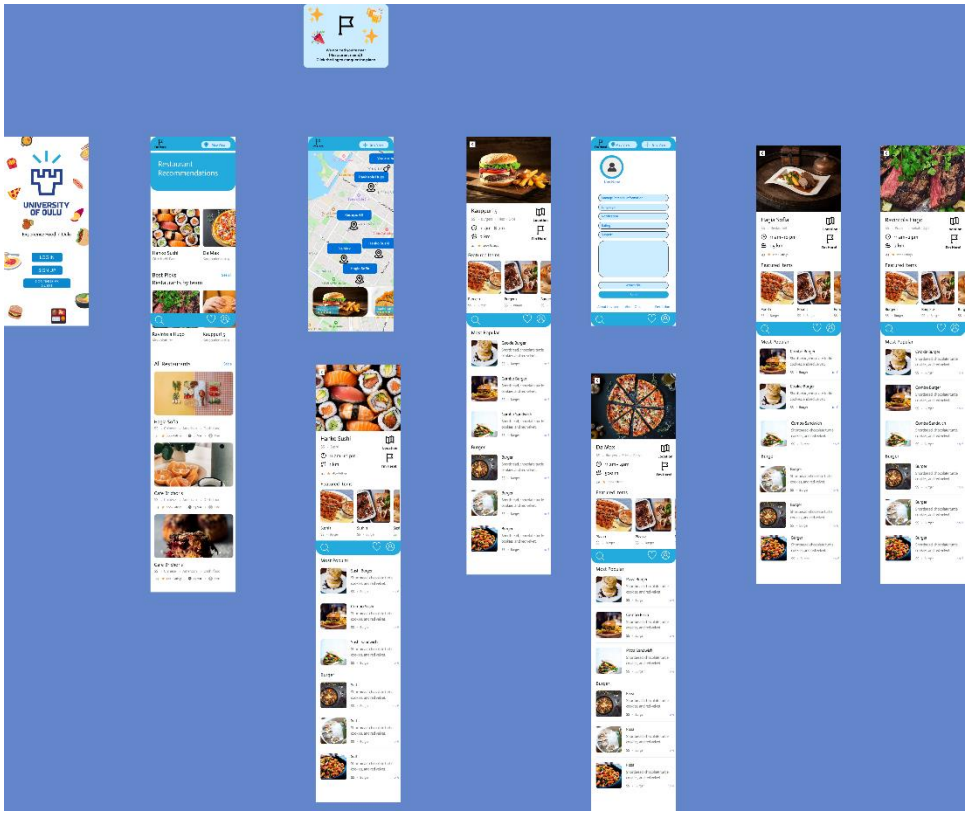
:


Map View
Resturant
Recomendations

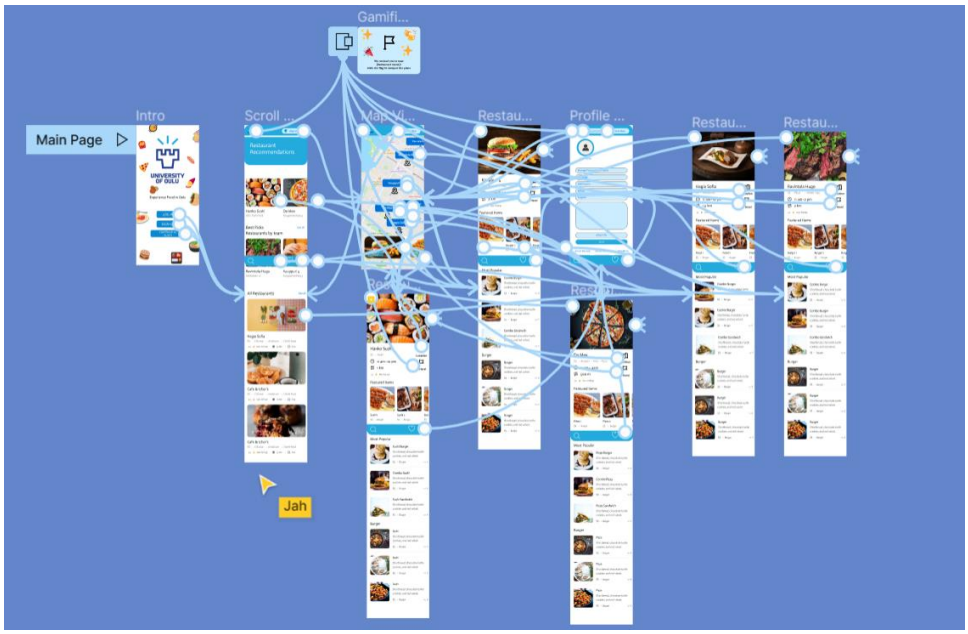

Map View
Categories
Most Popular


Map View
Grid View
Profile Picture
Settings
Manage Personal Information
Language
Notification
Rating
Support
Attach file
Send Message
About this app
About Oulu
Descriptions

Interactable prototype:



Prototype routes:



Each blue line corresponds to where it is linked. Maps and the overflowing aspects in the design are horizontally scrollable.

We used 5 real restaurants that are very well known and popular in Oulu for the prototype. Hagia Sofia, Da Max, Kauppuri 5, Restaurant Hugo, and Hanko Sushi.

Below is the link to the workable prototype:

https://www.figma.com/proto/HAfwJjl4Dl33Z26Yy2fJkn/Project-work-group-2?node-id=1-77&scaling=scale-down&page-id=1%3A11&starting-point-node-id=1%3A77