

Semester Project Proposal

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1. Title

Local Food Club App

2. Abstract

The project introduces the idea of social dining at private individuals' homes, where an experience is booked through the web app, making it an easy and straightforward process. The website provides a simple interface that allows users to interact with each other by creating event posts and signing up for them. Important aspects of that are economy and sustainability. By inviting people to your home for dinner, you can split a big portion of food so it does not go to waste, and share ingredient costs. The main goals of the project are to increase social bonds in local communities and to fight food waste. All of the aforementioned issues are critical in modern society, which is confirmed by research, statistical, and practical data. [1] [2]

3. Context and Problem

3.1. General Context

73% of young people below the age of 25 years old report that they lack the time and energy to cook for themselves, while it's 50% for those aged 25 and above.[4] This combined with the increasing cost of groceries makes for unhealthy habits regarding takeaway.[5] Meanwhile, studies suggest that, while the younger generation are most aware of the climate changes, they're also the generation with the highest amount of food waste. At the same time there is also an increase in people who feel lonely, where young people, aged 16-29, again are the most affected. Our idea for a piece of software is an attempt at a combined solution to try and reduce these problems.

3.2. Problem Statement

While there already exists applications for social networking and reducing food waste, none think of combining these 2 things into one. Foodclubs (madklubber) is quite common among friend groups in Denmark, but no platform exists to try and foster new clubs between strangers.

Guiding question: How can we create a digital platform that makes it easier for people to have access to healthy meals at low cost, reduce food waste and foster social connections?

4. Possible Solutions

4.1. Solution(s) in Terms of Software

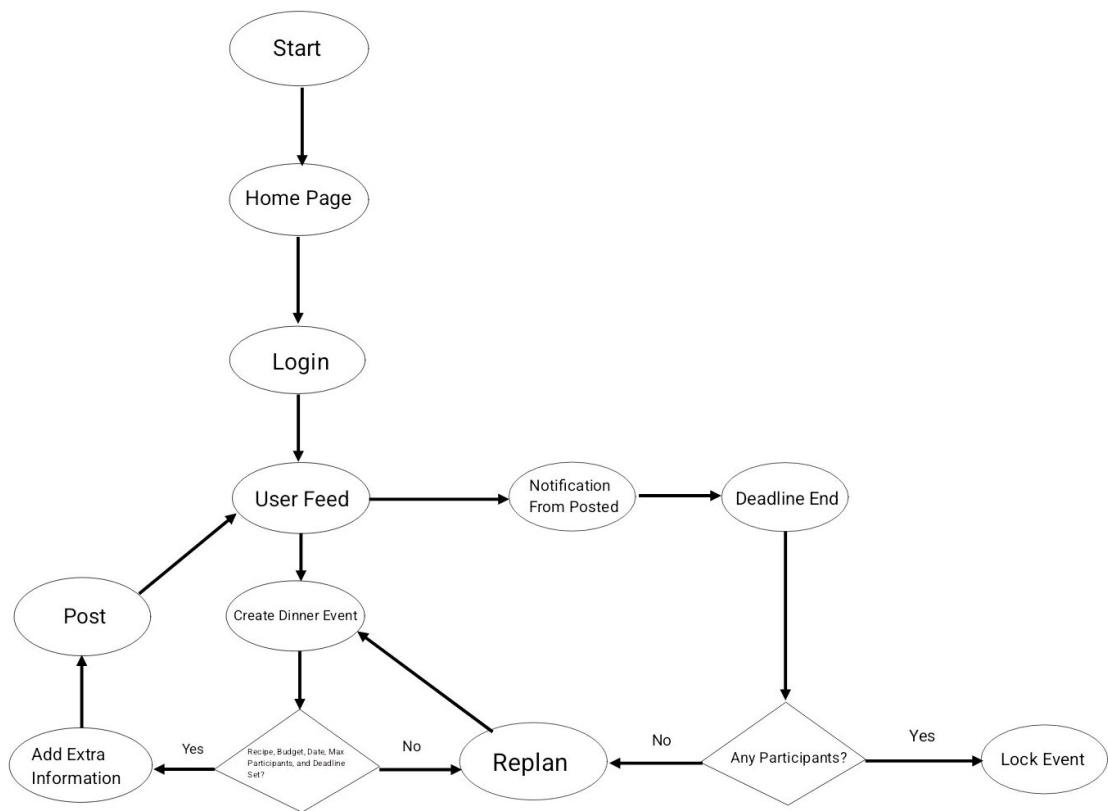


Figure 1: An example of a flowchart, of the creation of an event post

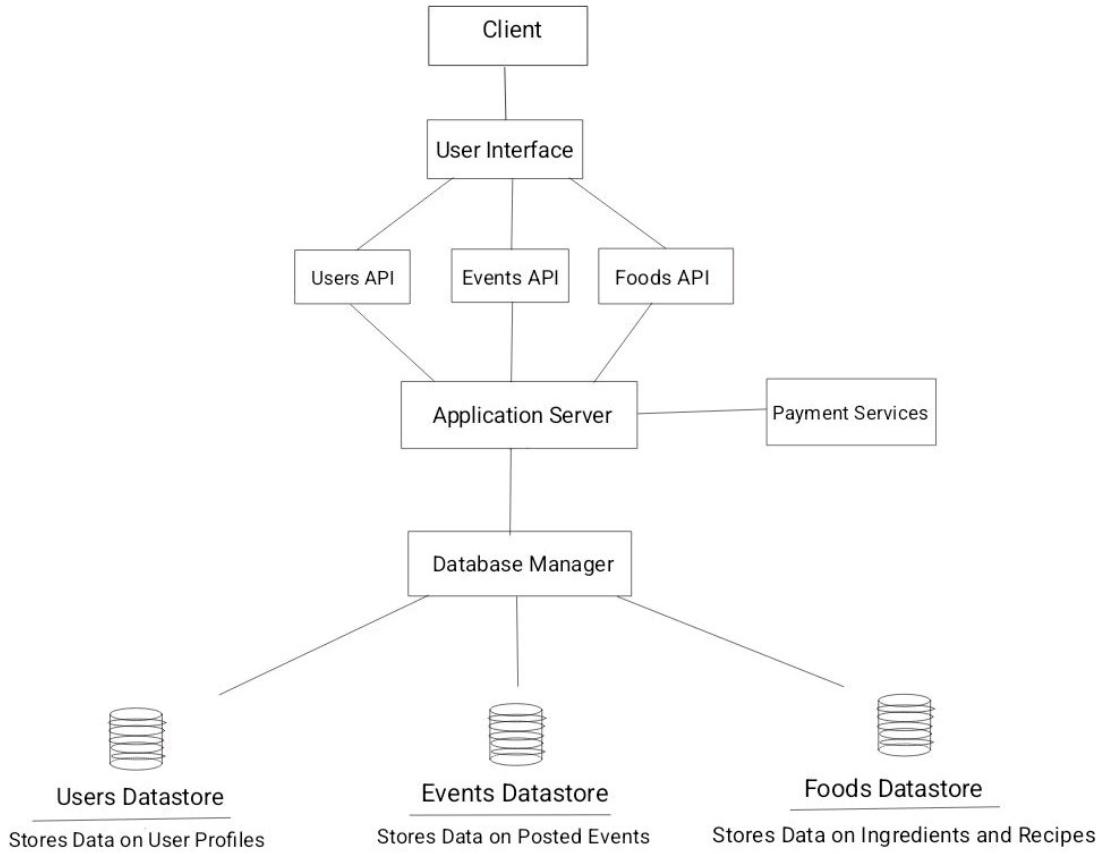


Figure 2: An example of an architecture, for a web application of this proposal

- Databases - use a combination of SQL and NoSQL databases with caching for frequently accessed data
- APIs in a microservices architecture
- Message brokers
- Visualization - single-page application for the user interface

4.2. How it Solves the Problem

This solution allows people to access affordable, home-cooked meals while creating opportunities to make new friends. It also provides a way to monetize your home cooks without running a full restaurant. Reviews, filters and allergen labeling will ensure the web trust and safety. This web will be sustainable due to is going to save a fairly amount of food.

5. Relation to Internet / Distributed Systems

5.1. Concepts/Components in Distributed Systems

The project may use the following concepts:

- Microservices architecture, e.g. user management API, notifications API, events management API, message brokers, etc.
- Concurrency control, synchronization, and transactions.
- Hybrid data store with SQL, NoSQL and cache storage.

5.2. Scalability

The project scales horizontally with multiple API instances and vertically through database optimization and caching, prioritizes consistency and availability, and offloads heavy tasks such as notifications and emails to a message queue.

5.3. Sustainability

This solution promotes transparency by clearly showing event details, reservation status, and availability to all users. Encourages responsible use by reducing energy consumption in individual households and fostering mindful consumption of food. The long-term maintainability is supported through scalable, modular, and clean-code architecture best practices that can adapt to more users and features without compromising performance or sustainability goals.

6. Possible Challenges and Scope

- **Possible Challenges:** Trust and safety (host verification, reviews, allergen labels), booking consistency under concurrent sign-ups, privacy of personal data (name, address, etc.)
- **Minimal Product (MVP):** Web app where users can create an event (time, place, capacity, price), discover other events, and reserve a seat. Basic profiles, payment handled offline
- **Maximum Ambition:** Scalable platform with real time availability across many events, integrated payment system, social features (private groups, live chat, friend/connection features) and robust safety and verification

7. Required Learning

- APIs
- payment gateways
- database systems

- front-end framework
- user auth/authz
- (optional) basic AI algorithms

8. MoSCoW Prioritization

Must have:

- The main features: create a post, create an account (sign up/login), meal feed, sign up for an event/meal, basic user profile

Should have:

- Important but not strictly necessary features: payment system, filtering, reviews, chat (using emails, not in-app chat), email notifications

Could have:

- Optional improvements: pricing estimation for ingredients, in-app chat, share to SoMe button, tips for hosts, ability to make connections, map view

Won't have (this semester):

- Applications on mobile platforms, food "to go" option, SSO (Google, MitID), 2FA

9. Small Bibliography

References

- [1] Dunbar, R.I.M. Breaking Bread: the Functions of Social Eating. *Adaptive Human Behavior and Physiology* 3, 198–211 (2017).
<https://doi.org/10.1007/s40750-017-0061-4>
- [2] Garcia, Leandro, Ruth Hunter, and Neil Anderson. "From loneliness to social connection—charting a path to healthier societies: report of the WHO Commission on Social Connection." (2025).
<https://www.who.int/publications/i/item/978240112360>
- [3] Danmarks Statistik. "Unge oplever hyppigst ensomhed" (2022).
<https://www.dst.dk/da/Statistik/nyheder-analyser-publ/nyt/NytHtml?cid=51004%20>
- [4] Wulff, R.K. "Unges indkøbs- og madvaner" (2021).
<https://www.madkulturen.dk/wp-content/uploads/2021/05/Unges-indkoebs-og-madvaner-Mindre-madspild-blandt-unge-Maj-2021.pdf>
- [5] Landbrug og Fødevarer. "Et kig på de danske forbrugeres takeaway måltider" (2024).
https://lf.dk/media/ybrbg4vz/et-kig-paa-danskernes-take-away-maaltider_final.pdf