What is my app and who is it for?

I'm creating a web domain for a small home-based cake production. It will be a webpage with customer zone for registered users. The goal is for present the product to people, spread awareness about the product and enable them to reserve the product of their wishes for a particular date and time, since that is the only way the business can satisfy the potential demand in current conditions.

Obviously the more people the app attracts the better. However, realistically the target group will be ladies, mostly mothers, who would want our product for their family as a birthday cake, a desert for a festive lunch or dinner, or just as an average day sweet to have with coffee.

How will it work?

As mentioned, the app will have two purposes. Firstly, it will serve as the face of the business, where it will provide information to all **visitors** of the webpage. This will include a little intro about the business, description of our product(s), and of all available variants. To be transparent, prices will also be available up front with the product(s), together with the minimum amount of days the product(s) need to be prepared.

Secondly, there will be a **customer zone** available upon registration. In there, customers will have the option to:

- `Make a reservation`

  - In this section, there will be a calendar with available dates. The customer will choose the type and amount of product(s) of their wishes and based on that, available dates will be calculated and displayed in the calendar. A color scheme to distinct unavailable and available dates will be used.
  - After choosing the date, either the user will be redirected to a different page or a pop-up window will appear, asking the customer to provide the delivery address and other required information before placing the order. After executing the order, payment info will be displayed prompting the customer to pay the down payment, or the whole amount.

- `Check and manage their active and past reservations`

  - Here users will see all their reservations. Each of them will have status: active (pending, processed), finished.
  - Users will have the ability, under pre-disclosed circumstances (enough time prior to the reserved date i.e. preparation time) to edit their reservation.
  - Attached to pending reservations will be the payment info should the user after placing the order decide to leave the down payment for later. However, if the down payment will not be realized enough in advance (this duration will be something like `argmin[TBD, preparation time]`), the reservation will be canceled - this might have to be checked manually for now.

- `Edit their account information`

  - The users will be able to define delivery addresses that will be automatically filled to the order placing form.
  - Also they will be able to edit their username, name, email, password etc.

Mobile version

The functionality of the mobile version of the app will be the same as the desktop version, however the design will be more minimalistic and tailored for the smaller screen. There will probably not be enough time

during the semester to implement this, so we will leave it as an extra option, but most likely it will be done somewhen after.

User roles

- Guest
  - Only has access to the general website, where they can see the information about the business as well as about the product(s)
  - Can register as a user
- User
  - Has access to customer zone
  - Can create reservations
  - Can modify reservations and profile info
- Admin
  - Can modify and cancel reservations
  - Can modify the down payment delay individually for each reservation
  - Can modify preparation times for each variant and prices for each variant
  - Can modify calendar, i.e. set available workload for each day, which will also automatically affect calculations for other days

Data model

Users

user id	name	second name	email	phone	password

Addresses

address id	user id	street	house number	post code	city	country
	user won't be present if the address is not saved by the user					

Orders - metadata

order id	user id	address id	status	order time	order deadline	preparation time	deposit deadline	price	paid	id of modified
			pending / processed / finished / modified							id of new order created if modifying this one

Orders - details

We will use JSON database to store order details due to high variability of data contained in such items.

Products
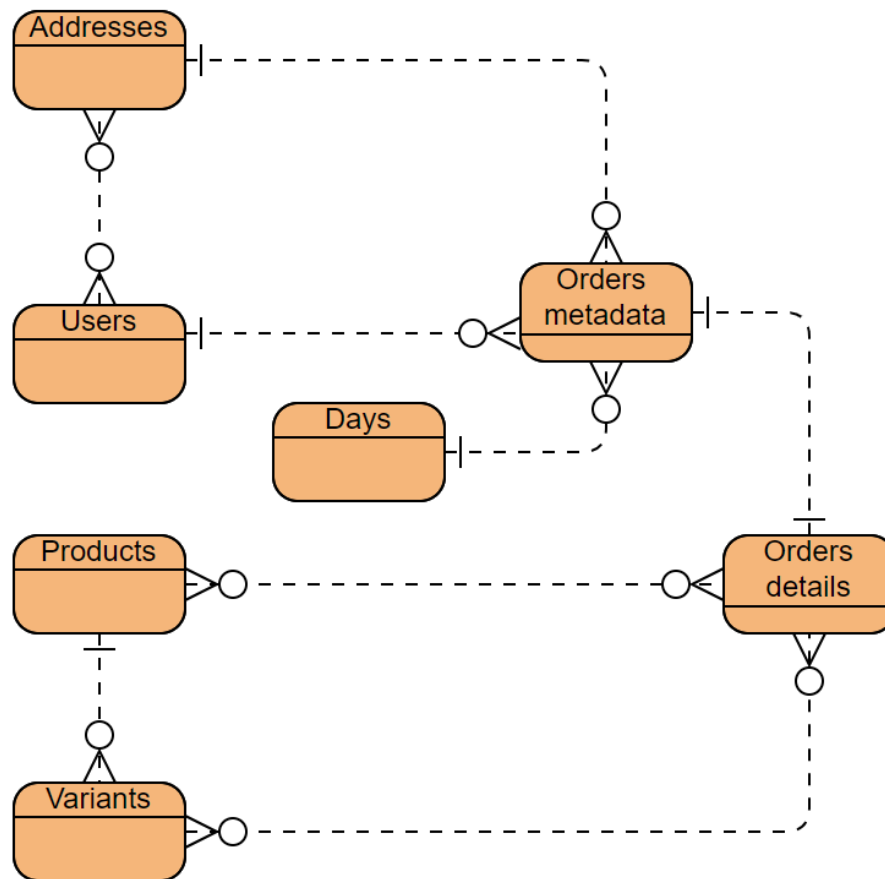
product id	name	base price

Variants

Each product has it's own column determining the price when the variant is applied to that product (-1 if the variant is not applicable)

variant id	name	product id	product id	...
		price when applied to product with this id	price when applied to product with this id	

Days

date	total workload	available workload	orders	note

Software requirements

- Client
  - JS, HTML, CSS
  - React, jQuery
  - Next.js
- Server
  - JS
  - Typescript
  - Node.js
  - Postgres, MongoDB
- Communication
  - Rest API
- Hosting
  - TBD
- Supported browsers
  - Chrome

Timeline

Week	Goal
5	frontend - guest pages and login/register page
6	frontend - reservation system, user zone; database setup
7	solve creating reservations, bind with databases

Week	Goal
8	solve modifying reservations and user data
9	admin interface
10	admin interface
11	deploy to the hosting server
12	last minute fixes

Future goals

- Mobile version
- Compatibility with Safari
- Live rendering while choosing variants