

A modern kitchen with white cabinetry, a white countertop, and a white island with a white countertop. The floor is made of light-colored wood. A large green circle is overlaid on the center of the image, containing the text "Smart Refrigerator" and "by Thingtelligence".

Smart Refrigerator

by *Thingtelligence*

Thingtelligence



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A grayscale photograph of a modern kitchen. In the foreground, a stainless steel gas stove with five burners is visible, with a white kettle on the left burner. To the left of the stove, a tall glass vase holds several white flowers. To the right, a small tray holds some fruit. Above the stove is a stainless steel range hood. Two glass pendant lights hang on either side of the range hood. The background shows white kitchen cabinets.

Problem Definition

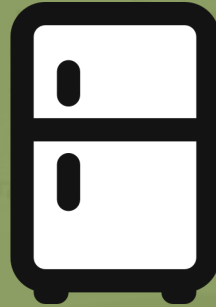
Everyday people spend a lot of time in the kitchen:

- Trying to decide on what to eat
- Encountering an empty fridge
- Searching for good recipes that fit their tastes



Smart Refrigerator

Smart Refrigerator



Food amount
calculation through
changes on IoT scales



Data transmission
through Arduino to
Android devices



Application modules
and recommendation
system



Module 1: Content

- Real time food data through Load Sensors and Amplifiers
- Data transfer to server through Particle Photon Kit (using Arduino Uno)
- From Android Application, assignment of scales to food



Module 2: Shopping List

- Personalized list creation and management with multiple users
- Notifications from consumed/expired products
- Automatic addition to/removal from shopping list





Module 3: Recipes

- Search for variety of recipes from database built on Django Server
- Recommendation of recipes based on user profiling, user rating, fridge content and food similarity
- Ability to Add/Edit/Delete personal recipes

django



Module 4: Profile

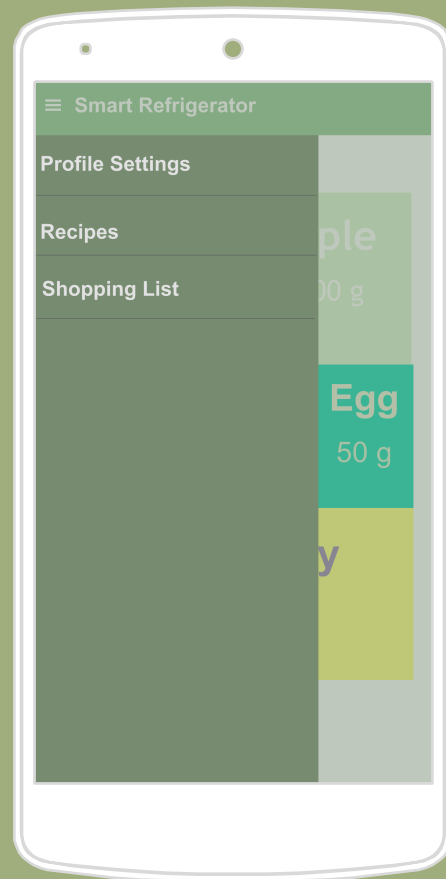
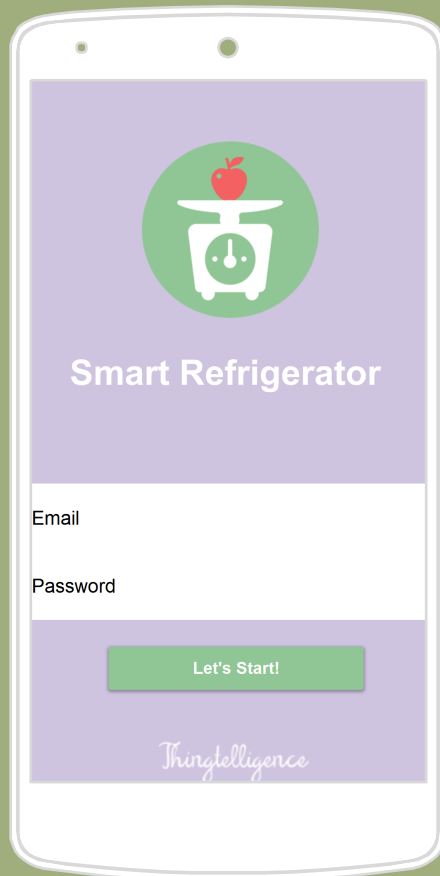
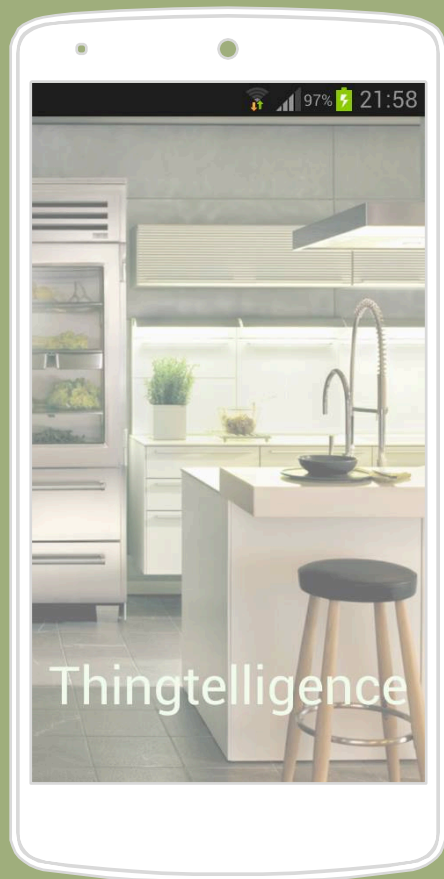
- Customized recipe recommendation based on personal preferences
- Individual profile pages
- Preservation of personal data and access, upon change of refrigerator



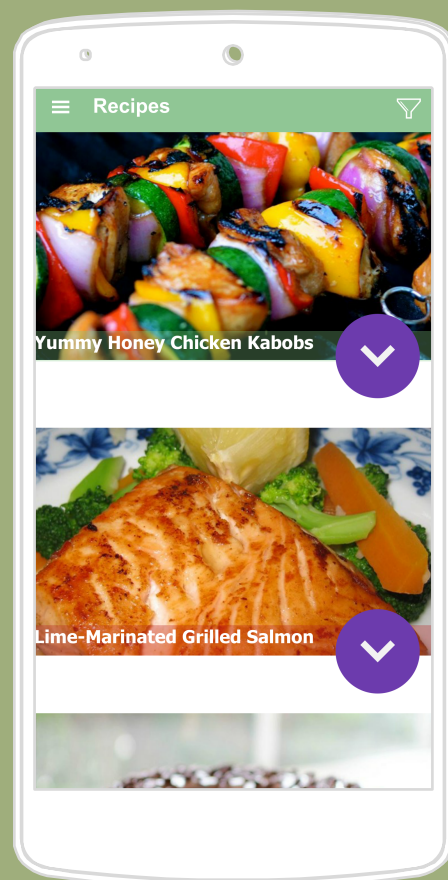
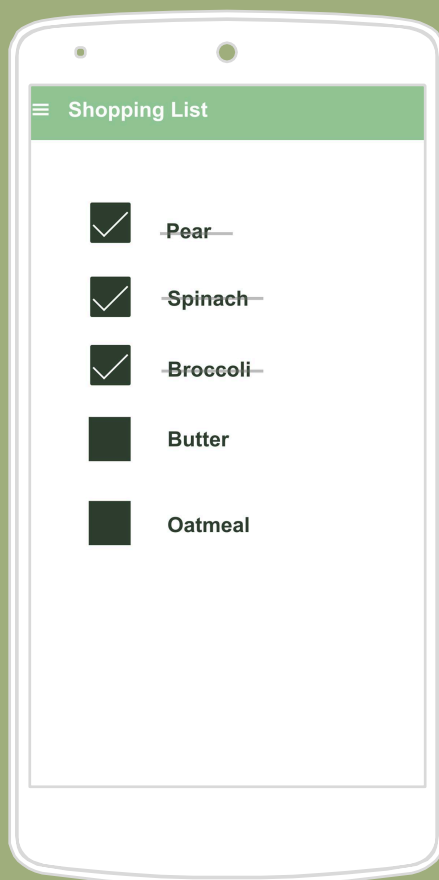
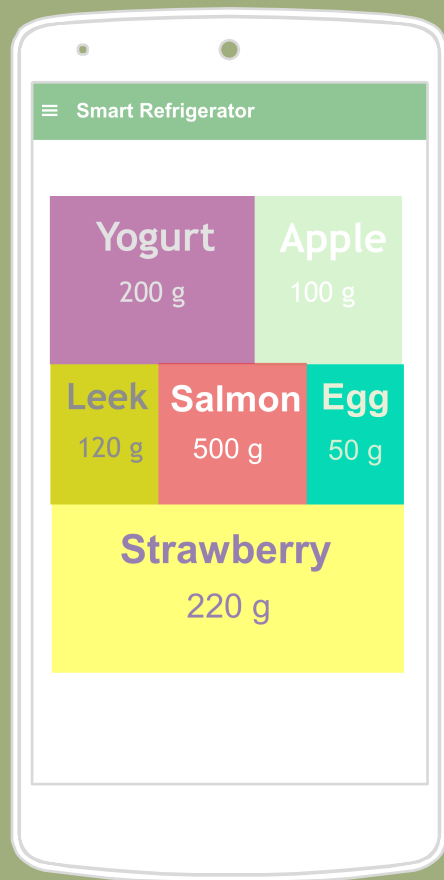
django



Software



Software





Next Steps

- Integration with real life refrigerator production
- Barcode scanning instead of scale assignment for improved user experience
- Extended recipe database for better recommendation
- User interface enhancement

A grayscale photograph of a hand writing on a chalkboard. The hand is holding a piece of chalk and is in the process of writing. The word 'Konni' is visible on the board, written in a cursive script. The background is slightly blurred, showing other parts of the chalkboard and possibly other writing.

Any questions?