Smart Refrigerator
by Thingelligence
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
Module 4: Profile

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

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Smart Refrigerator

Email

Password

Let's Start!

Smart Refrigerator

Profile Settings

Recipes

Shopping List

Egg

Milk

50 g

200 g
Software

- Smart Refrigerator
  - Yogurt: 200 g
  - Apple: 100 g
  - Leek: 120 g
  - Salmon: 500 g
  - Egg: 50 g
  - Strawberry: 220 g

- Shopping List
  - Pear
  - Spinach
  - Broccoli
  - Butter
  - Oatmeal

- Recipes
  - Yummy Honey Chicken Kabobs
  - Lime-Marinated Grilled Salmon
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
Any questions?