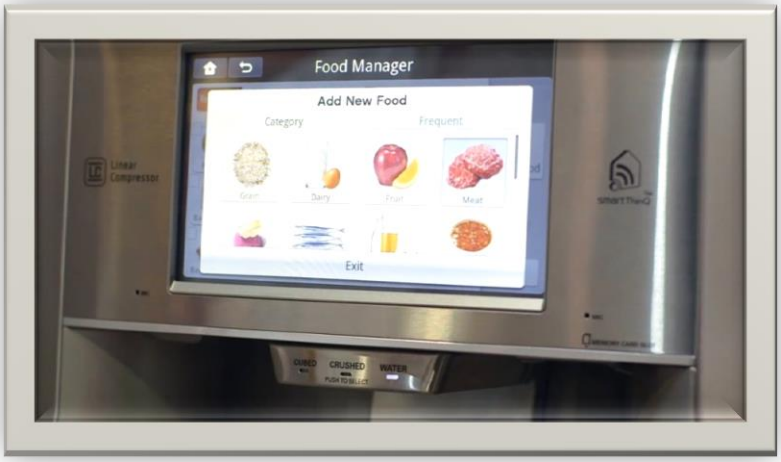
PROJECT 2: SMART REFRIGERATOR DATABASE SYSTEM



The idea behind the Project

The Internet of Things is allowing "people and things to be connected anytime, anyplace, with anything and anyone, ideally using any path/network and any service."[1] Smart refrigerator is a refrigerator which has been programmed to sense what kinds of products are being stored inside it and keep a track of the stock. This kind of refrigerator is often equipped to automatically determine when a food item needs to be replenished.[2]. We will simplify the project and let the user interact with the refrigerator and provide users with different information about their products and consumption history.

Project Description

The project aims to develop a helpful application which communicates with the smart refrigerator database. The database will contain all the food stored in the refrigerator distinguished by an id, name, category (Grain, Dairy, Meat, Vegetable, Fruit, Juice, Egg), count, price per item and threshold. It will contain a list of meals

1 Annie Hsu. Unlocking the Power and Potential of the Internet of Things. Collection No 2. Internet of Things. August, 2014.

[2] Osisanwo, Folasade, Shade Kuyoro, and Oludele Awodele. "Internet Refrigerator–A typical Internet of Things (IoT)." March 2015.

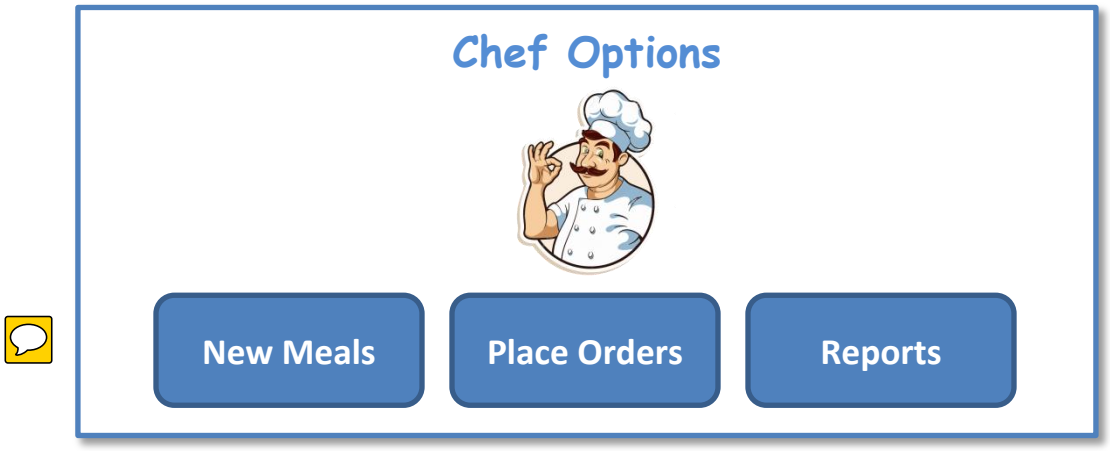
that can be delivered as well; each meal will have an id, a name, description, cuisine and ingredients.

There will be different types of users:

- The administrator
- Regular users
- The Chef

Based on the type of user the functionality will differ.

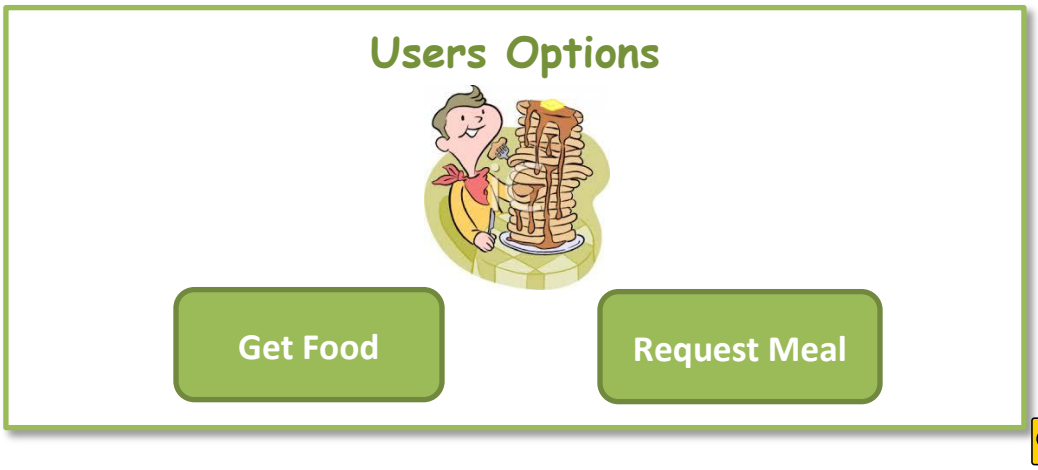
The Chef:



The Chef will be able to enter different types of meals and the required ingredients. If any of the defined ingredients is not available he can place an order that needs to be approved by the administrator. The Chef can see a report of meals that belong to a required cuisine and will be able to see whether the ingredients of any meal are available or not. Simple meals can be entered, for example:

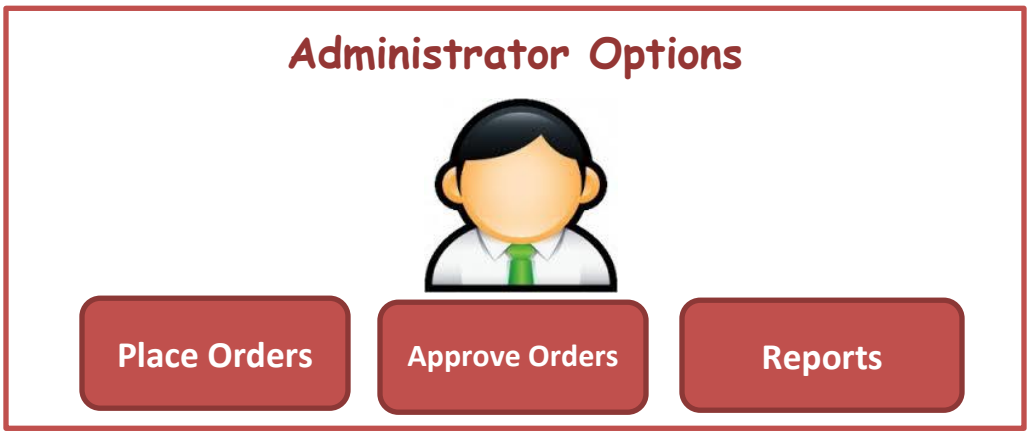
- Burger Sandwich consists of: Burger, Bread, lettuce, tomato and cheese.
- Spaghetti with chicken consists of: Sagitta, chicken and butter.
- Tomato Soup: Tomato.
- Green Salad: Tomato, cucumber and lettuce.

Regular Users:



Regular users can get single food item out of the fridge either by requesting the food item name or checking from the list of available food based on its category. A user can also request a meal. Once a meal is requested, an order will be sent to the chef, and if the meals' ingredients are available, then a meal order is delivered. Otherwise, it will stay in the meals order queue till the ingredients are ready. (I.e. once the ingredients are ordered by the chef and approved by the admin the meal will be delivered and it will be out of the queue).

The Administrator:



The Administrator will be maintaining the stock, and placing the orders that are generated by the smart refrigerator or requested by the Chef. The smart refrigerator will prepare an order to be approved by the administrator once any amount of food is below a defined threshold.

The smart refrigerator can produce different reports for the Administrator. The most expensive meal (based on its' ingredients prices), and the frequently requested food items and meals and the top three ingredients that are mostly used in the meals.