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**In Class Assignment: Problem Statement**

**Futuristic Refrigerator**

Refrigerator technology has remained largely unchanged since its inception. Current technology does not parse well with modern utility and efficiency demands. Busy families need an easy, energy efficient way to manage their groceries and refrigerator inventory. Our system would make it easier for people to maintain a well-stocked refrigerator. For example, when a busy family is grocery shopping, a family member can access the inventory of the refrigerator from their mobile phone to determine what they need to purchase. Upon returning from a shopping trip, the inventory of the refrigerator could be updated by scanning the barcodes of the recently purchased goods. The system will also be able to provide quick meal suggestions based on the contents of the refrigerator. Also, health conscious individuals could use the touchscreen interface on the refrigerator and the barcode scanner to track the amount of calories they consume.

In order for this system to function, it is necessary that the refrigerator maintain a database of food inventory and pertinent data regarding expiration dates, caloric content, etc. The system must also be able to access an online web service using a Wi-Fi connection in order to obtain recipe suggestions based on the current input. This system must also be user-friendly and affordable. We expect that the creation of the reliable software to run on the refrigerator as well as the accompanying applications for mobile/web/desktop environments that will interact with the refrigerator would take 6 months to develop. The refrigerator hardware, which would ideally involve just equipping a standard refrigerator with a touchscreen monitor and a barcode scanner, should take about 3 months to create. We also expect about 3 months of time dedicated towards testing the system in real world scenarios.

In order to determine if our final product satisfies our design constraints, we would require that an average working class family would be able to easily use , create and maintain an inventory of products, with minimal time spent on learning the specifics of the system. In order to determine if the system meets our cost constraints, we would expect this working class family to be willing to spend the extra cost for this unit over a standard refrigeration unit.