

Smart.Grocer

Your life is more than grocery shopping

by **SmartWave Technologies**

Preliminary System Design
for Major Class Project
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Introduction

Smart.Grocer is a personal grocery shopping expert adviser wireless-based software suite for wireless devices such as PDA and smart phones. With Artificial Intelligence and data mining technologies, *Smart.Grocer* opens a whole new way of grocery shopping, that is more convenient, flexible, and economically efficient, to working professionals who like to spend more time on important facets of life and less time on necessary-but-boring-and-tedious activities like grocery shopping. The system also provides useful information related to grocery shopping such as store locations, product availability, special promotions and discounts on the go.

Preliminary Concept

The killing apps of *Smart.Grocer* is convenience, time and money saving factors for people who life is too busy to keep up with shopping list, special promotions and coupons but care to spend money wisely on grocery shopping and hate surprises of running out of necessary items when needed.

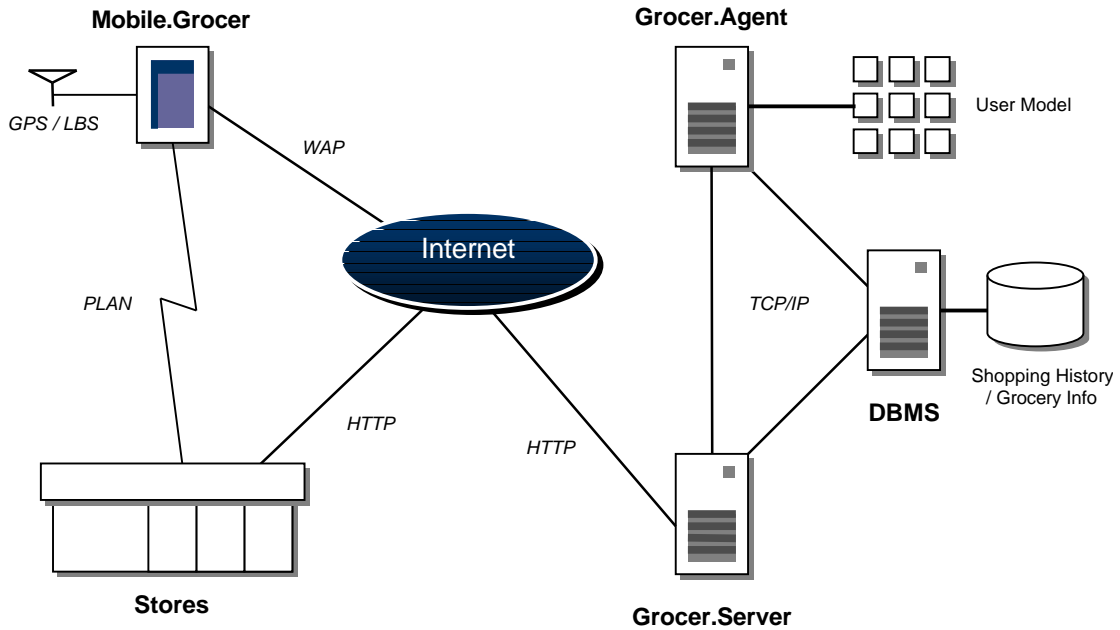
To start using *Smart.Grocer*, a wireless user subscribes for *Smart.Grocer* service on *Smart.Grocer* website and creates a member account on *Grocer.Server*. The user then downloads an appropriate version of *Mobile.Grocer*, the client interface, to install on her wireless device. During the initial period, four to eight weeks, the user allows *Grocer.Agent*, an AI module on *Grocer.Server*, to learn about her shopping behavior by entering information of items purchased, via barcode reader, *Bluetooth™ Item Reader* or item ids, into *Mobile.Grocer* while grocery shopping. The entered information is transmitted in real time wirelessly to *Grocer.Server* over the Internet. The server aggregates and stores the information into user's shopping history database and, in time, starts to develop models of user's grocery shopping and consumption behaviors. After the initial period, based on the behavior models, *Grocer.Server* automatically suggests shopping list to the user per configurable time interval or when items are about to run out and, in the same time, recommends the best buying solution of each items or for the list based on special promotions and price comparisons among stores in the vicinity. User can also submit the list to the store online for later pick up at a convenient time.

Using *Bluetooth™* or other Personal Location Area Network technology, *Mobile.Grocer* connects to *Onsite.Grocer* and retrieves information about special promotions on different grocery items when user walks into a store, as well as, helps locate items on the shelf and display the number of items remain.

Summary of Features

- Data entering via barcode reader, *Bluetooth™ Item Reader* or item id
- User's shopping history aggregations and grocery shopping behavior modeling
- Automatic shopping list generation based on shopping behavior models
- Recommendation on the best buying solution per item or per list
- Automatic item substitution recommendation for higher buying utility
- Stores locating within specified vicinity via GPS or other Location Identification Technologies
- Onsite special promotions detection when user is in a store
- Online (on-air) shopping list submission for drive-in pick up
- Automatic Payment
- Item location
- Item availability

System Architecture



Team SmartWave

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