

# ShopLister – A Grocery List Management Application

Mr. Abdulqader Firoz  
Informatics Institute of Technology  
(of Affiliation)  
University of Westminster  
Colombo, Sri Lanka  
abdul.2016189@iit.ac.lk

Ms. Gayashini Ratnayaka  
Informatics Institute of Technology  
(of Affiliation)  
University of Westminster  
Colombo, Sri Lanka  
gayashini.r@iit.ac.lk

**Abstract**— Shopping for grocery is a very essential part of human lives activity performed regularly. However, it can be observed that people spend very little time to plan and manage their grocery lists as this task is often considered to be undervalued. People also tend to find grocery shopping complex and frustrating. The goal of this paper is to analyze the problems faced by people with creating and managing grocery lists and identifying the gap in current techniques used. It can be observed that human interaction with their smartphones is massive in this era, hence a mobile based solution which helps create and manage grocery lists can be very useful. A proposed solution prototype ‘Shop-Lister’ is then discussed along with implementation and design methodologies, which is a mobile based application that enables people to create grocery lists, manage (add/delete/cross items) lists, find nearby supermarkets available, recommend items to added to list along with brand suggestions and also helps locate items within a supermarket through the use of augmented reality. This type of solution will help improve people’s lifestyle and reduce the level of complexity faced in grocery list management.

**Keywords**— list management, data mining, recommendation system, augmented reality, geolocation services, mobile technology.

## I. INTRODUCTION

Mobile servicing platforms have been immensely growing and are expected to achieve competitive advantage over other rival approaches in the near future[1]. Food sharing has been a common element of societies, but the way people approach this matter has rapidly changed with the emergence of technologies such as websites and mobile applications[2].

“Grocery shopping is one of the fundamental human activities performed regularly at a constant interval such as weekly, fortnightly or monthly.”[3]. “Grocery shopping consists of writing a grocery list, locating items on a list in the grocery store aisles, and purchasing items.”[4]. Although grocery shopping plays a vital role in people’s day to day lives it can be

observed that the time and effort spent by people in planning and managing grocery lists is often undervalued. The goal of this study is to analyze the gap in current methodologies used in planning and managing grocery lists whilst emphasizing the importance on preparation of grocery lists.

## II. PROBLEMS IDENTIFIED

TABLE I. PILOT SURVEY CONDDUCTED

|    | <i>FINDINGS</i>                                      | <i>RESULTS</i>   |
|----|--|--|
| 1  | Gender   | 55.4% Female,<br>44.6% Male  |
| 2  | Age category   | 6.9% Below 20,<br>21.8% 21 – 30,<br>32.7% 31 – 40,<br>29.7% 41 – 50,<br>8.9% 50 Above          |
| 4  | Methodologies widely used                            | 44.6% Piece of Paper,<br>22.8% Mental List,<br>30.7% Using your Smartphone,<br>1.9% Other      |
| 5  | Forgetfulness ratio during grocery shopping          | 5.9% Never,<br>40.6% Often,<br>48.5% Occasionally,<br>5% Always.                               |
| 6  | Overspending ratio on grocery shopping               | 50.6% Yes,<br>6.9% No,<br>42.6% Maybe  |
| 7  | Shopping locations usually visual                    | 79.2 % Large Supermarket,<br>10.9 % Wholesale markets,<br>6.9% Small Retail Stores<br>3% Other |
| 8  | Grocery shopping frequency                           | 36.6% Once a week,<br>29.7% Twice a week,<br>24.8% Once a month,<br>8.9% Twice a month         |
| 9  | Methodologies used to share grocery among households | 13.9% SMS,<br>41.6% Phone call,<br>11.9% Piece of paper<br>32.6% Face-to-Face Communication,   |
| 10 | Brand value consideration for grocery shopping.      | 3% Never,<br>21.8% Rarely,   |