The Smart Shopping List

Jayawilal W.A.H

149216C

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Declaration

I declare that this thesis has been composed solely by myself and that it has not been submitted, in whole or in part, in any previous application for a degree. Except where explicitly states otherwise by reference or acknowledgment, the work presented is entirely my own.

Name of Researcher	Signature of Researcher
W.A.H Jayawilal	……..
	Date:
Name of Supervisor	Signature of Supervisor
S. C. Premaratne	……..
	Date:

Dedication

"In a walk with nature one receives far more than he seeks"

– John Muir

This thesis is dedicated to my mother, who taught me that even the largest task can be accomplished if it is done one step at a time. You are the reason I am here today.

It is also dedicated to my beloved University of Moratuwa, a place where I learnt so much. This is me giving back for what you have given me.

I also added a quote from John Muir. The quote summed up my longing for the outdoors and the beautiful memories I have while travelling, gazing up at endless plains in southern Utah mountains in an early misty morning.

Lastly, This is for you Kerrie, my longtime friend…

Acknowledgement

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Abstract

Grocery Shopping is considered a tedious and less interesting task by many yet a decisive activity to be undertaken, as it is a vital part in human lifestyle. Different yet simple techniques are used in assisting to carry out these activities, some of them being taking down the items to be purchased in a writing paper or on the personal phone's text program or most commonly, creating a mental list. These traditional ways of handling grocery shopping often suffer from many drawbacks like being forgetful, time consuming and effortful, making them inefficient and unreliable. In terms, this results having time and financial losses which everyone attempts their bests to stay clear of. The outcome of this very study, 'The Smart Shopping List' is a mobile software solution which enables the users to perform their grocery shopping experience with ease overcoming above complications. The Application consists of several modules; Interactive Shopping List where the user can add/remove/cross items, Shop Locator which assist the user to find the ideal supermarket to go to so that most of the items can be bought in one place, Items Recommender powered with Apriori algorithm to remind the user of any possible missing items or items he may be interested in and 'BringMe!', which is a text-to-app feature to share the shopping lists between the users. This system has additional potential to reinforce the information gathered throughout list creation process and the purchases made by the user, in terms of identifying solid patterns by the association algorithm to produce more accurate and personalized projections. Upon the implementation, it was observed that very healthy results were developed from the data mining algorithm from the correlated data that represent an important part of the database, as well as strong usability feedback given by the users showcasing 82% of beta users being benefited from the solution. Above discussed context has been a strong background which reasons for 'The Smart Shopping List' to become a challenging project and as a novel concept not only the in the field of Social lifestyle but also in terms of Data Mining, Geo-Location and mobile technology as well.

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