How can a mobile app support and encourage households to donate surplus food to relevant food waste prevention organizations?

Author: Osama Asim

SID: 6876872

303Com-Individual Project

BSc Computer Science

School of Computing, Engineering and Mathematics, Coventry University

Supervisor: Craig Stewart

Contents

[Abstract 1](#_Toc3399058)

[Acknowledgments 1](#_Toc3399059)

[1.0 Introduction 1](#_Toc3399060)

[1.1 Motivation 1](#_Toc3399061)

[1.2 Objective 2](#_Toc3399062)

[1.3 Report Structure 3](#_Toc3399063)

[2.0 Literature Review 3](#_Toc3399064)

[3.0 Method 3](#_Toc3399065)

[4.0 Results 3](#_Toc3399066)

[5.0 Evaluation 3](#_Toc3399067)

[6.0 Discussion 3](#_Toc3399068)

[7.0 Reflection 3](#_Toc3399069)

[8.0 Conclusion 3](#_Toc3399070)

[9.0 References 3](#_Toc3399071)

[Appendices 3](#_Toc3399072)

# Abstract

# Acknowledgments

# Introduction

Aim of the work described in this project was to produce a mobile application that will support and encourage households to donate their surplus food to relevant food waste redistribution organizations.

## Motivation

Food waste is global public policy issue. According to an estimation by Food and Agricultural Organization (FAO) of the United Nations 1.3 billion tonnes of food, which is one-third of the food produced for human consumption, is wasted every year. In UK alone around 10 million tonnes of food, 60% of which could have been avoided, goes to waste. This waste is being generated from post-farmgate sectors which include households, hospitality and food service, food manufacture, retail and wholesale. Figure 1 breakdowns the food waste arisings in the UK. By weight, household food waste makes up 71% of the UK post-farmgate total, manufacturing 17%, hospitality and food service 9% and retail 2% [(WRAP 2017)](#WRAP).

A screenshot of a computer

Description generated with very high confidence

Figure 1

Figure one shows us how households contribute towards almost three quarters of post-farmgate food waste. Average household in the UK loses around £470 a year to food waste. This number gets higher for the households with children, reaching up to £700 a year. These figures put an average person in the UK to be arising £200 worth of food waste.

Apart from the economical implications, food waste has environmental and social impacts too. Food waste in the UK alone can be associated with over 20 million tonnes of greenhouse emissions. Finally, food waste also raises social questions, when others in UK and around the world are struggling with food shortage.

## Objective

Even though 71% of post-farmgate food waste comes from households, current food waste prevention platforms mostly cater to manufacturing and retail sector. Prevention is implemented either via redistributing the food via charitable and commercial routes or diverting it to produce animal feed. Food waste prevention platforms supporting households are limited in number and this lack of support for households outlines the key objectives of this project:

* Collecting and analyzing data from households regarding their knowledge of current food waste habits and platforms they use to curb food waste.
* Develop a mobile app to support the households to donate their surplus food to relevant food waste prevention organizations.
* Comparison of the developed mobile application with current digital platforms supporting households.

## Report Structure

The first part of the report

# Literature Review

## Background

The Food and Agricultural Organization (FAO) of the United Nations describes food waste as wholesome edible material intended for human consumption, arising at any point in the Food Supply Chain that is instead discarded, lost, degraded or consumed by pests [(FAO 2015)](#FAO). On a global scale around 25% of total edible food from Food Supply Chain is being wasted each year [(Usubiaga et al. 2017)](#Usubiaga). Usubiaga argues that a significant portion of this food waste is being generated at a household level and author’s claims can be verified by WRAP’s 2017 findings on food waste in the UK. WRAP found that 71% of post-farmgate food waste within UK, happens at household level. T

## Food waste, its Environmental, Economic and Social implications

# 3.0 Method

# 4.0 Results

# 5.0 Evaluation

# 6.0 Discussion

# 7.0 Reflection

# 8.0 Conclusion

# 9.0 References

1. FAO (2015) *Food Wastage Footprint & Climate Change* [online] available from <http://www.fao.org/3/a-bb144e.pdf> [7 April 2019]
2. WRAP (2017) *Estimates Of Food Surplus And Waste Arisings In The UK* [online] available from <http://www.wrap.org.uk/sites/files/wrap/Estimates\_%20in\_the\_UK\_Jan17.pdf> [7 April 2019]
3. Usubiaga, A., Butnar, I. and Schepelmann, P. (2017) "Wasting Food, Wasting Resources: Potential Environmental Savings Through Food Waste Reductions". *Journal Of Industrial Ecology* 22 (3), 574-584

# Appendices