CCT College Dublin

“Guess What?” Application Design

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Module Title(s):	Integrated Application Development & Research Skills
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The topic of the problem:	Health and daily food waste in a society where time is limited.

Declaration

By submitting this assessment, I confirm that I have read the CCT policy on Academic Misconduct and understand the implications of submitting work that is not my own or does not appropriately reference material taken from a third party or another source. I declare it to be my own work and that all material from third parties has been appropriately referenced. I further confirm that this work has not previously been submitted for assessment by myself or someone else in CCT College Dublin or any other higher education institution.

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Abstract

In the last two decades, the lifestyle of each person has constantly changed, adapting to the new technologies that surround them, and implementing them in their daily lives. Decision-making has changed in the last two years with the pandemic, affecting people's eating habits. For this reason, this application aims to optimize people's time in making decisions when making their supermarket purchases and in turn, reduce food waste that is a consequence of not making good decisions about daily consumption, helping have clear menu ideas that fit the lifestyle in terms of time and health.

Keywords: menus healthy, optimize time, food waste, smart decisions

Introduction

The COVID-19 pandemic has disrupted economic stability, stress levels, and daily routines. As we try to return to our daily activities and adjust to a new reality every day, infectious disease and economic experts have indicated that our lives will not simply return to pre-COVID-19 normalcy (Carroll, et al., 2020). Our way of life has fundamentally changed. To identify the best way to support each person in this post-COVID-19 context, we need to understand how these fundamental changes have impacted each person's health, food waste, and the value of time (Lopez Barrera & Hertel, 2021). Food waste has negative economic, social and environmental impacts, and its importance has increased in recent years. Worldwide, the annual amount of food waste is nearly 1.3 billion tonnes, equivalent to about one-third of global food production (Amicarelli & Bux, 2021). The Covid-19 pandemic, among other social and health challenges, has dangerously affected the economy and all industrial sectors, from agriculture to food manufacturing, greatly impacting household food consumption. Since the largest amount of food waste is generated in households, the increase in household food consumption has inevitably translated into the generation of waste, including food waste. But not everything in this pandemic has been bad, one of the benefits it has brought is the technological reach of older adults (Garske, et al., 2020). Research has shown that older adults before the pandemic were limited in their use of technology, but now for the past two years, it has been a critical aid in communicating with family members and shopping online. This has been an opportunity for older adults to feel more comfortable using technology and to have at their fingertips many opportunities that were previously limited (Morrow-Howell, et al.,

2020). The main objective of this work is to be able to make an application that allows the three factors: health, food waste, and time, to be implemented and to be able to help people by consuming consciously and saving their time in making decisions about what to eat daily. It is intended to be an attractive application for young people, adaptable for people in their daily routine, and a friendly environment so that older people can easily access it.

Consequences of eating habits

The importance of healthy eating has increased in recent years, due to the diseases that young people between 15 - 23 years of age and young adults between 24 - 33 years of age have developed, such as cholesterol, high triglycerides, diabetes and type II obesity. Adults and older adults live with the consequences that they could develop in this age range with the lifestyle and sedentary lifestyle that people of mature age develop. These diseases are a consequence of the bad eating habits suffered by people in these age ranges due to the lifestyle they lead. Most of this population group is affected by the time they spend planning their daily diet. Being affected by the stress they live daily and not knowing the benefits of each food. Our body is not subjected to the same challenges as previous generations, stress has affected it because it secretes the hormone cortisol that helps the body to be alert by increasing heart rate, however our body is not designed to remain in this state for long time and this chronic stress is what is behind multiple pathologies: depression, obesity, anxiety attacks and even Alzheimer's.

Encouraging to create new habits

An application will be designed called "Guess What?" to help organize the week's menu. The decision was made to make an application to be easier to use and the user interaction is better and be available at all times that he has his cell phone with him. In this application, you will have a variety of recipes that the user can choose the type of food that they like the most, when the user adds a recipe to be made in the week, this app will automatically generate the things that they need in the supermarket list. This will generate time savings and make necessary purchases, with the items that will be used in the week. To obtain extra profits in the application, it was considered to make a premium plan with an extra cost, where a calorie counter could be carried in the prepared recipes.

This service will have two types of account that the user can choose:

1. Free membership: It will offer a free service where the user can have all the application's recipes in the different available languages.
2. Monthly membership: Priced at €9, where the user will have the option to edit their recipes and be able to share these recipes with their friends within the app with the same type of plan.

Audience

- People on the go
- Age between 25-30 years
- Age between 45-55+ years
- Users with mobile devices
- Users with difficulty with technology

Activities

- Advertising on social networks
- Commercials on web platforms
- User recommendation
- Offering free month of monthly membership

Risk factors

In the development and release of this application in the Market, it is considered that this application will encounter circumstances that affect planning. These risks were considered following the PESTEL technique shown below:

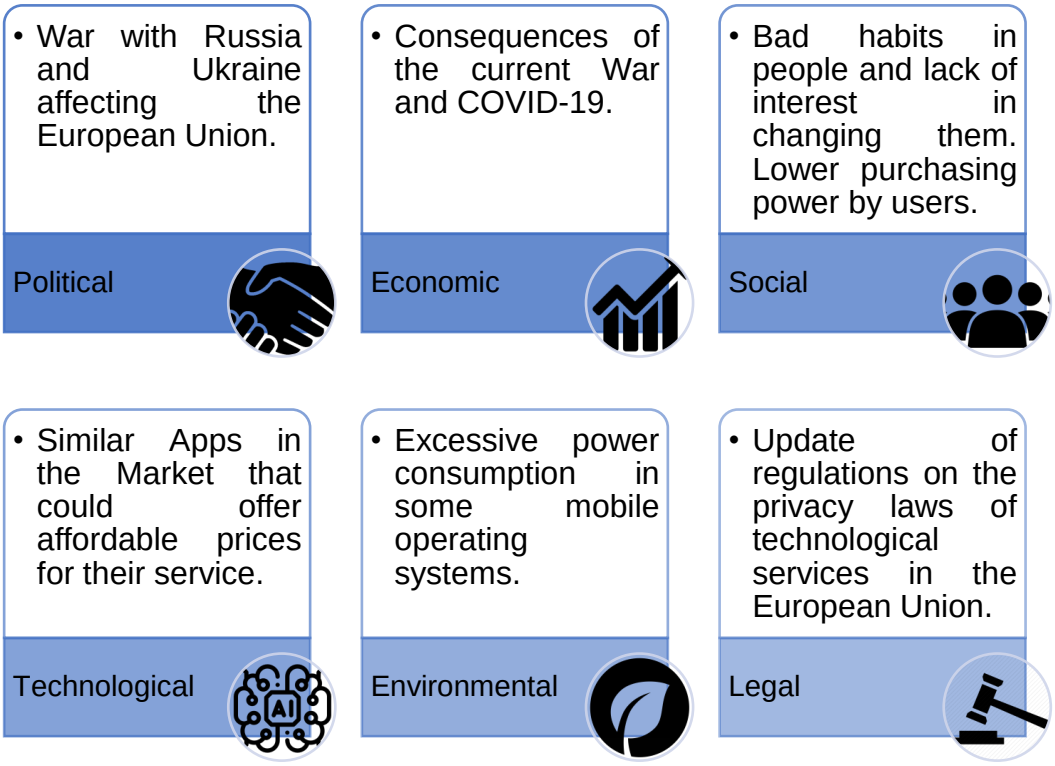


Diagram 1. Risk estimation is based on the PESTEL technique.

Competitor

In the market there is a variety of mobile applications that are developed in order to provide healthy diet services complemented with physical activity. There are very few applications where they optimize the time they spend preparing recipes and generate the shopping list with the necessary products and quantities required. One of the applications that come close to this similarity is Cookidoo, which offers the following services:

- Over 70,000 recipes in multiple languages to support any lifestyle.
- Choose, plan and prepare weekly menus, search filters and personalized shopping lists.
- Classify and organize your favorite recipes and collections.
- Easily share recipes and shopping lists with family and friends.
- Access the recipes wherever and whenever you want from your mobile, your tablet, your Thermomix® TM6 or your computer.

This app is available on iOS and Android system. It has the 48th place of downloaded applications in the health area in the App Store with more than one million downloads. This

app offers a 30-day free trial and the yearly subscription is €45. The reviews of this application are good, however the service is not free and many of its recipes are designed to be made with this brand's own product, which is Thermomix. Where the user has to figure out how to follow these recipes alternately or be forced to buy this product.

Developing the app

The aim of this project will be to design and develop a mobile application in different operating systems to provide recipes that help users to optimize their time in preparing them and in the purchase of the products necessary for their preparation, reducing the waste of foods and helping the user to choose recipes that match their lifestyle and tastes.

Objectives

- Search for a framework that adapts to develop the application in different operating systems.
- Find a marketing strategy through social networks.
- Make the system attractive to the user.
- Make the application environment friendly for older people.
- Conduct a professional search for the preparation of recipes.
- Compare the market with different similar apps.
- Make recipes easy and quick to follow.
- Find that our database is suitable for the system.
- Carry out a demo test so that users can give their opinion before launching it on the market.
- Continue searching through surveys for what the user needs by comparing with previous surveys.

Planning

To carry out this application you need to have a team, necessary work, and computer equipment to work. It is estimated that the following team will be needed:

Members	Members required	Salary per year	Total estimated
Project Manager	1	€50,000	€50,000
Programmer	3	€45,000	€135,000
Backend Developer	3	€45,000	€135,000
Web Designer	2	€40,000	€80,000
Marketing Team	2	€37,000	€74,000
IT Sales	1	€40,000	€40,000
		Total	€514,000

Table 1. Estimated salary and team members to develop the app.

The following table shows an estimate of the necessary equipment and the cost:

Computer equipment	Required equipment	Cost	Total estimated
ThinkPad E14 Gen 2 (AMD)	4	€ 882.75	€3,531.00
ThinkPad C13 Yoga Chromebook Enterprise	2	€ 769.99	€1,539.98
Lenovo Legion 5i Gen 6 (17" Intel)	6	€ 1,149.99	€6,899.94
		Total	€18,870.86

Table 2. The estimated cost of computer equipment.

Method

In this project, we will be working with essential steps to develop this application in time. When making an app, mistakes and setbacks can be made in the development, an approximate 4 – 10 months is made for the development of this in the following scheme:

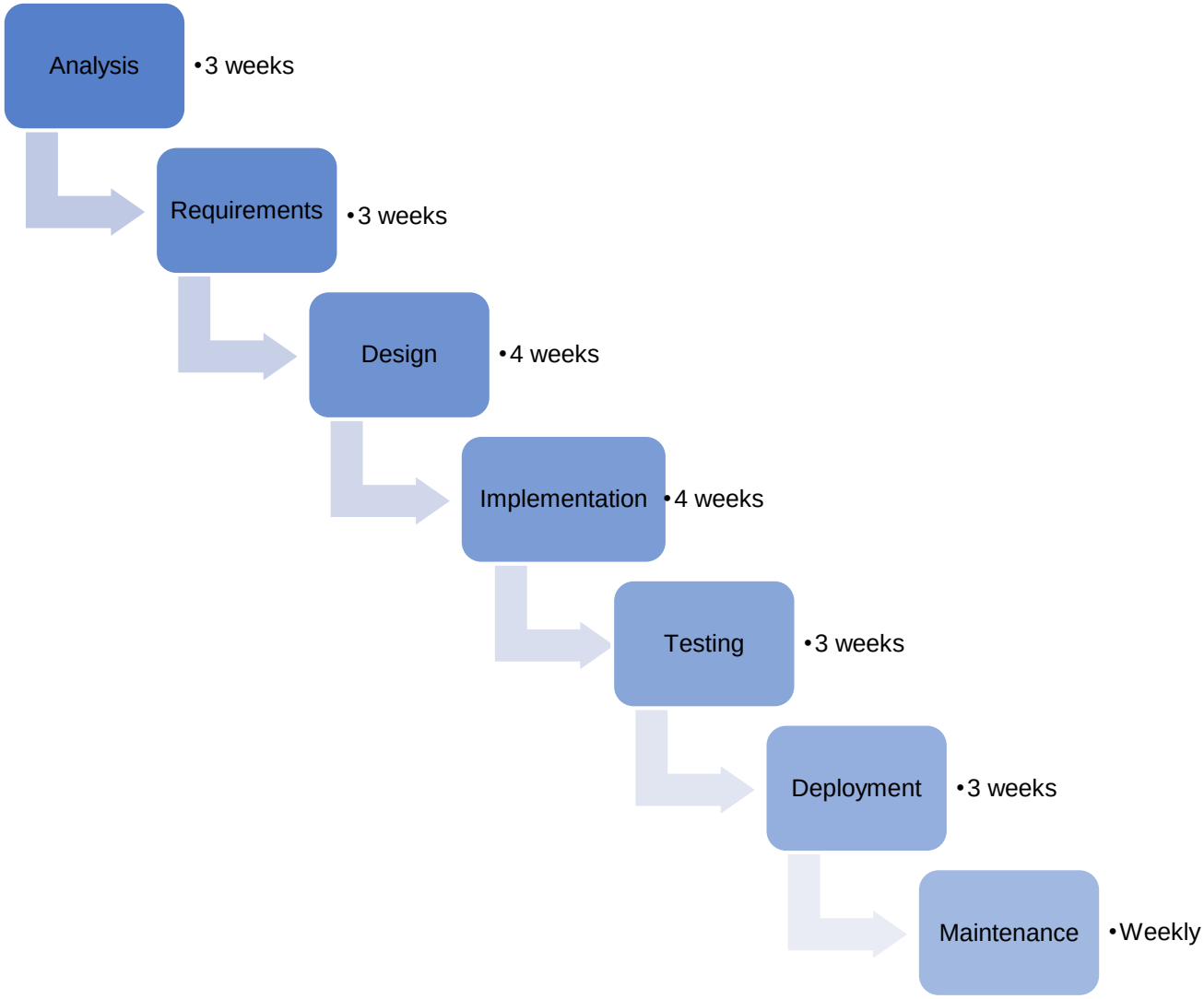


Diagram 2. Time estimation is based on the Waterfall methodology.

Analysis

A survey was conducted on 360 people (Appendix 1) where questions were asked to assess the user's needs, where 92.5% were women and 47.5% are in the age range of 36 - 50 years and 22.5% are older than 50 years. This gives us a result that the people most interested in this application are adults and most of them work full time. These results will help us to make an app with an easy-to-use environment. However, 49.4% would not be willing to pay for a premium service, which could be considered if it is the best option to obtain extra income from this app.

Design

An app that is developed in a suitable framework for different operating systems will be required. One of the options is Electron, which will allow us to work in a friendly environment that is easy to detect errors. The programming codes will be working and developing on Github. At this point, the opinion of the stakeholders will be taken to know their needs and take into account their requirements when developing this app.

Implementation

At this point the programmers, web designers and backend developers will be involved where they will be working together with the activities that will be assigned with the Project manager. The best environment to develop this app will be on GitHub where they can work together on issues along the way. The marketing team will be working on the right strategies for the launch and IT sales will be analyzing the market.

Test and Integration

The app will be integrated with the direction of the project manager who will designate the people who will be involved and will take the opinion of the stakeholders if some errors are considerable, leave them and continue working on them in future updates of the system.

Reports

Each person in this project will be keeping weekly reports, to keep track of problems and analyze how progress has been made in the project, as well as find common errors that can be repeated, as well as errors that changed direction established points in the main plan. Stakeholders will be able to give opinions and evaluate the progress of the project with these reports.

Conclusions

When conducting the survey, graphs were generated (Appendix 1) giving percentages that will help us direct towards which market our app will be more focused on. It was possible to see the importance of people's time and the time they spend going to the supermarket and how it makes it easier to have a shopping list. This will be essential to avoid food waste since 54.7% do it occasionally and it is one of the main reasons why this topic was chosen. This will also help people save by not buying unnecessary things in the supermarket such as fruit or vegetables that they will not consume, these being the most common waste that occurs in the home. They were asked to choose the types of food of their choice and many types of food were obtained that had not been considered. One of the main problems in getting users to take the survey was that they wanted to take in a multicultural variety of people living in Dublin, but unfortunately, it only managed to be carried out mostly by Latin American people and that is why there are certain types of food of preference, but this does not mean that other types of food are not considered for recipes in this app.

Appendix 1

Survey of 360 people with different age ranges and employment statuses. The link for this survey is: https://forms.gle/4aMeunva1S47muDP6

GUESS WHAT?

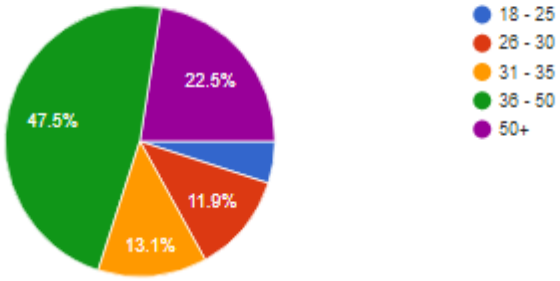
Guess What? It will be an app that will help plan the week's menu with recipes of the style of food that you prefer while making the supermarket list facilitating your purchases and avoiding unnecessary food consumption.

PRIVACY PERSONAL DATA

The following questionnaire will be used for general analytical use only. The answers will be anonymised and your responses will not be connected to you in any way whatsoever. You will not be added to any mailing list afterwards. Only numerical results will be display and with the pure purpose of completing an assessment at the CCT College. Proceeding to the survey implies that you understand and agree to provisions in this disclaimer.

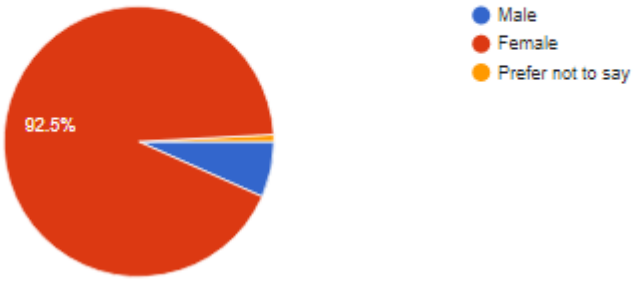
1. What is your age range group?

360 responses



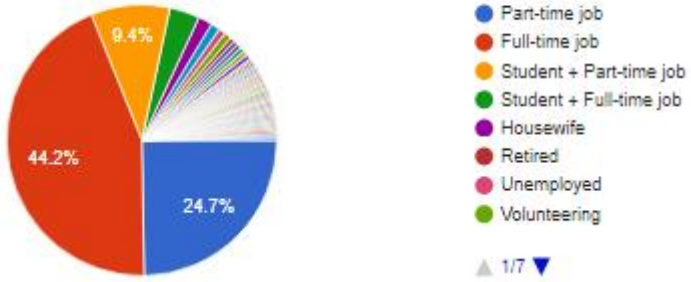
2. What is your gender?

360 responses



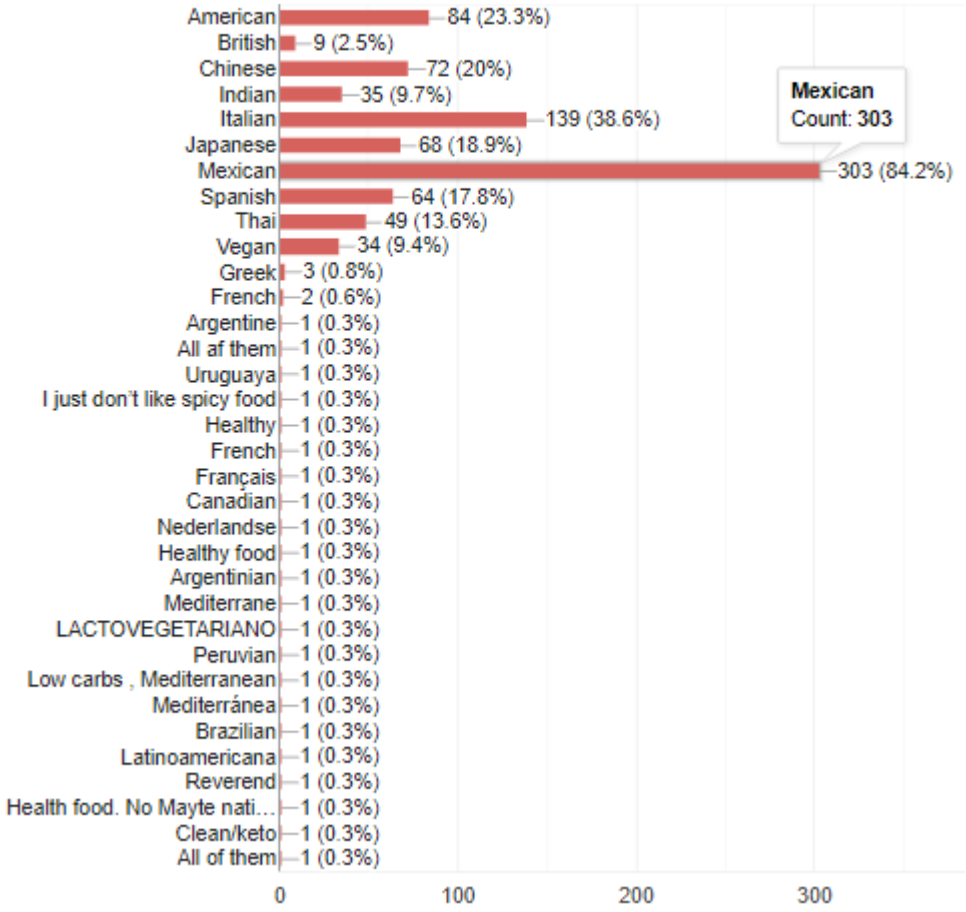
3. What do you do for a living?

360 responses



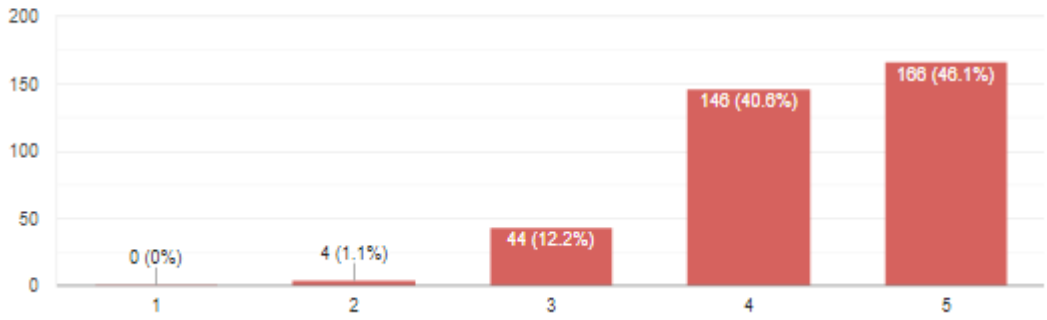
4. What kind of food do you prefer?

360 responses



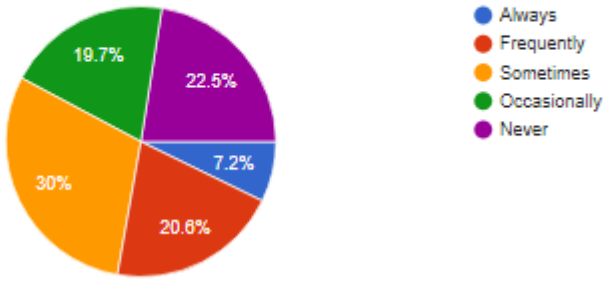
5. From 1 to 5, how important is it for you to eat a healthy diet? 1 not important and 5 very important

360 responses



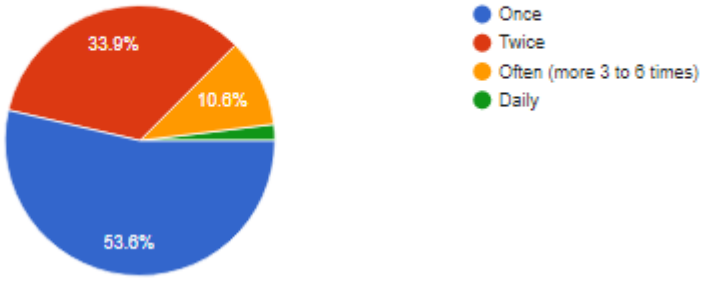
6. Do you plan a weekly menu?

360 responses



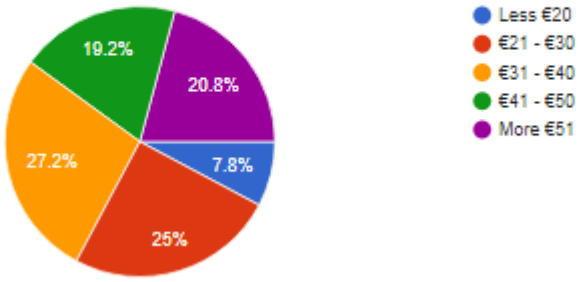
7. How many times a week do you go to the supermarket?

360 responses



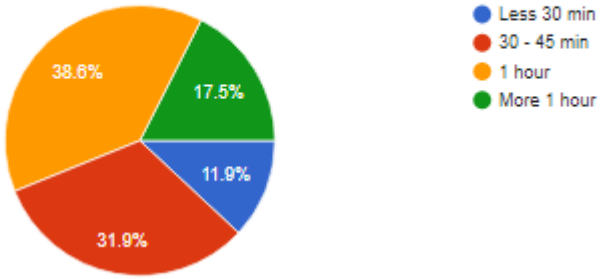
8. On average, how much do you spend on your food in the week? Per person:

360 responses



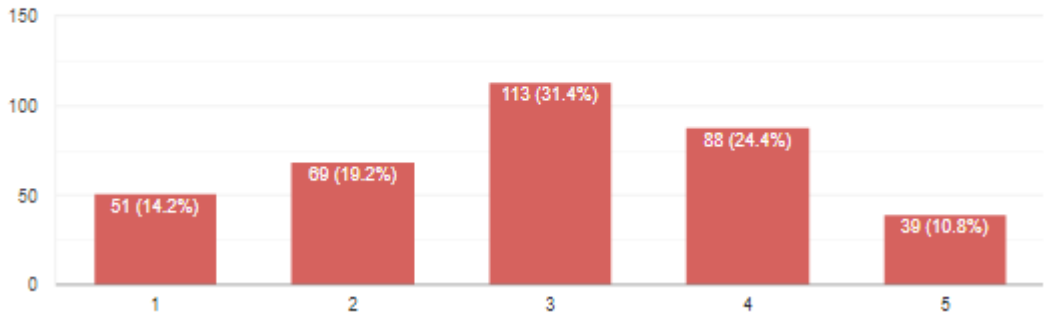
9. What is your average time to do the grocery shopping?

360 responses



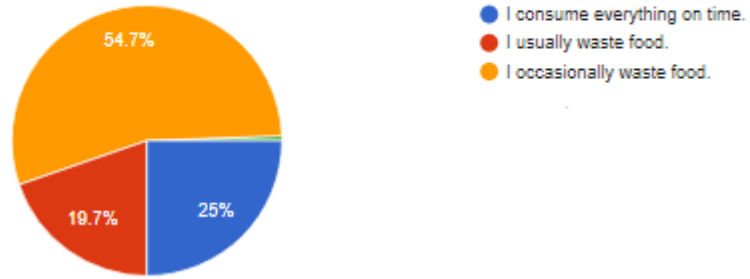
10. From 1 to 5, how difficult is it for you to decide the things you need to eat? 1 not difficult and 5 very difficult

360 responses



11. The food you buy in the week often expire or is unusable, what do you consider to be your case:

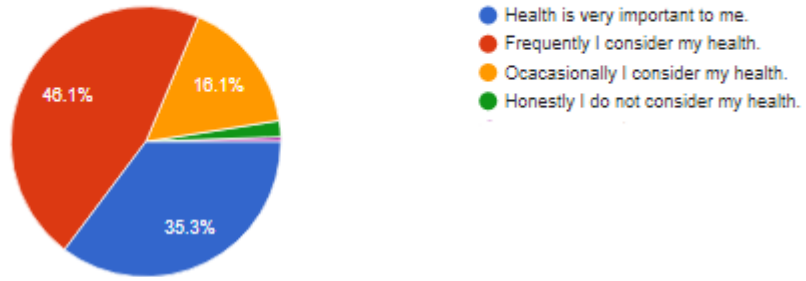
360 responses



When you do your shopping at the supermarket:

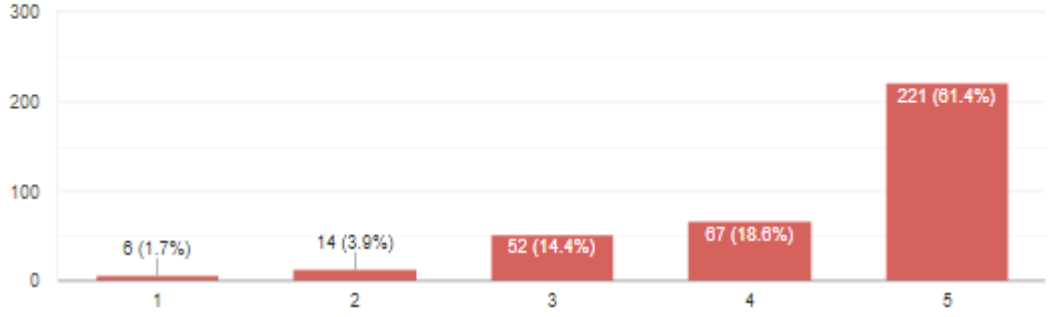
12. Do you consider your health when choosing your products?

360 responses



13. From 1 to 5, how much does it help you to have a shopping list? 1 not helpful and 5 very helpful

360 responses

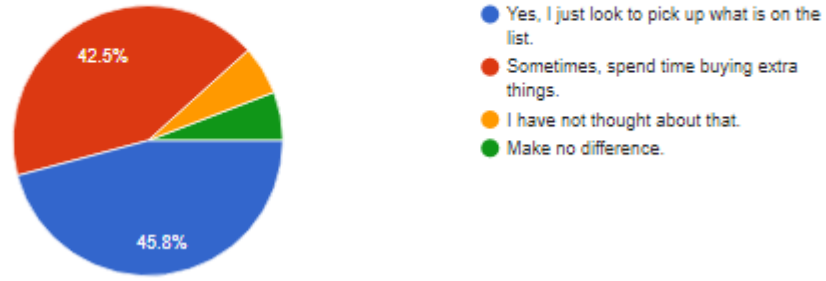


14. By having a shopping list, do you think you save money?

360 responses

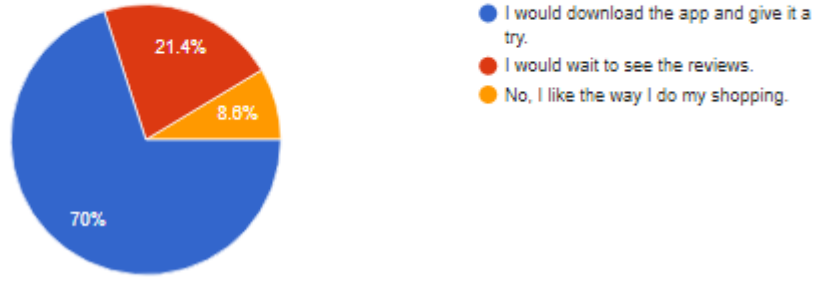
15. By having a shopping list, do you think you save time?

360 responses



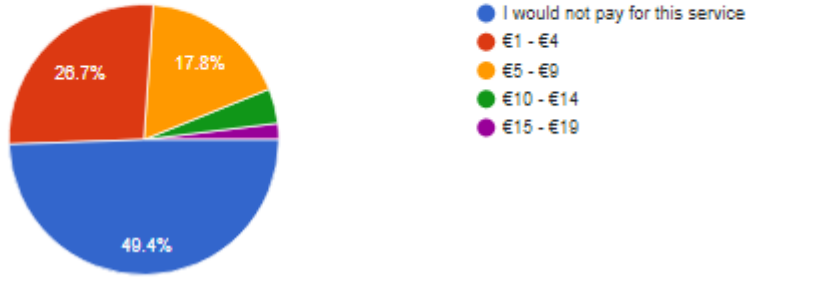
16. If there was an app that helped you plan your menus and shopping list for the week, would you give it a try?

360 responses



17. If there was a premium service with a menu with calories per meal, would you pay for this service? Monthly price:

360 responses



Thank you for your time and contribution to this assessment. -Leisly Pino 2020303.

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