

Designing information systems for people CII2345

Assignment 1

Deadline – Friday 18 January 2019

Maximum 2000 words (appendices do not contribute to the word count)

Name: Victor Meriacri

Student number: u1768775

1. Introduction

The main thing to keep in mind when designing a new application is that every person is different and has its own needs. The best way of designing a successful application is interviewing people, analysing their behaviour and life style. That's what I did in this assignment, besides that, I used some other methods of research, such as heuristic analysis, competitor analysis and personal observation. My strategy was to research on existing application, figure out their plusses and minuses, then interviewing people and find out what needs do they have, and finally producing user requirements. Later, in designing phase, I used the gathered requirements to make changes in my sitemap and task flow diagrams. This action is important, because it determines whether the application will be used or not.

2. Data gathering

Lifeline application helps its users achieving five different goals:

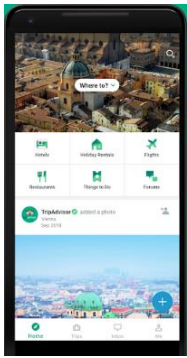
- 1.Going on holidays (Holidaying)
- 2.Organising social events such as a party or family event (Gathering)
- 3.Learning about a new subject (Studying)
- 4.Managing money (Saving and spending)
- 5.Preparing a meal or going to a restaurant or ordering a take-away (Eating)

As there are no such existing applications that can be that complex, I've decided to research on separate apps for each of the above goals. In this way, I've chosen the following apps for further research and analysis:

1. Holidaying: TripAdvisor
2. Gathering: Doodle, Calendly
3. Studying: Coursera, Khan Academy
4. Saving and spending: 1Money
5. Eating: Deliveroo, JustEat, Uber Eats

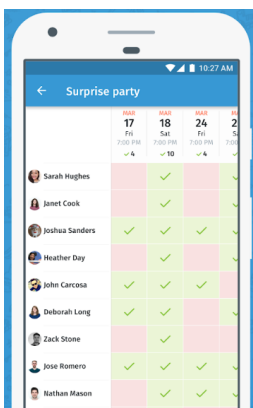
Heuristic Analysis

TripAdvisor is a helpful holidaying application which can make one's trip better by advising hotels, restaurants, places to visit, things to do, based on recommendations of people and experts. It has a user-friendly design and stores a big amount of helpful information about locations from all over the world. By doing heuristic analysis over TripAdvisor (based on Jakob Nielsen's 10 general principles for interaction design), I've found out that it meets all of the standards. **[2]**



TripAdvisor app

Doodle is a scheduling app that helps to find the best time for a gathering, it lets users to select what time they are available to meet. People use it for **planning** parties with friends, business meetings, family reunions and so on.



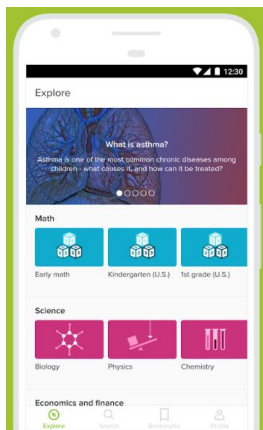
Doodle app

Calendly is a good automated scheduling software that can help a user to hold different types of meetings such as, one-on-one, round robin, collective, group. Most of the people are using it for business meetings, as it has a number of useful features that can empower a team to have a streamlined and productive workflow.

Personal observations

Coursera is an online school that stores over 2,000 courses and specializations developed by 140+ of the best colleges and universities in the world. People use it to advance their career by mastering subjects from Python programming and data science to photography and music.

Khan Academy is an online resource for studying. The app boasts access to over 10,000 videos along with various lessons and courses. Most of the people are using it **to learn new things** more effectively by doing **quizzes and unit tests**, as well as to get personalized recommendations on exercises to focus on. When using this application, I have faced several big problems, such as low quality of downloaded video and glitchy interface (might be related to my device's performance). Moreover, there were no possibility of downloading articles and read them offline, which is a big minus for me.



Khan Academy app

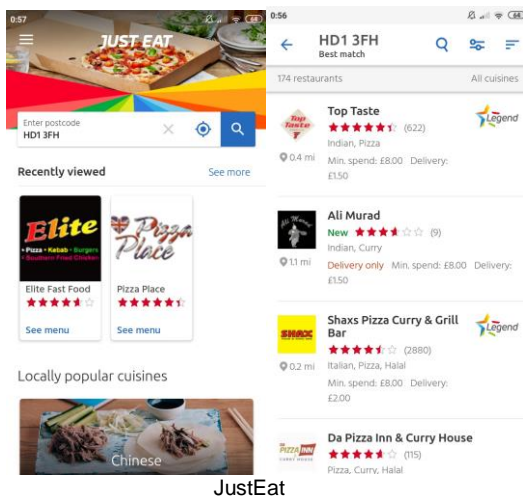
1Money makes the keeping track of finances easier. **People are using it** to know where their money is going, the app also helps with planning income expenses and avoiding accidental purchases.



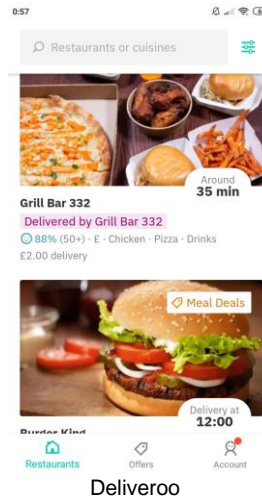
1Money app

Competitor analysis

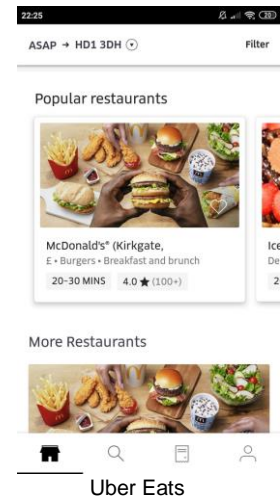
Deliveroo, JustEat and Uber Eats are three popular applications for ordering food. Each of them provides access to a number of restaurants' menus and allows the user to place orders. I used the competitor analysis method to figure out and compare the main features of these apps, data shown in **table1 [1]**. Most of the features turned out to be common for each of these applications, however there is quite a difference in functionality.



JustEat



Deliveroo



Uber Eats

Interviews

By interviewing a number of students, friends and my father about traveling application, I have found out that, some of the needs are not fulfilled, and that the application is difficult to use for 20% of the users. The questions I addressed them where all aimed to find out their real experience with the traveling application.

In addition to this, I've applied the card sorting method to interview them about the saving applications they are using. In this way, I figured out the features that make them use the application.

3. Key findings from data gathering

By using **heuristic analysis** over TripAdvisor [2], I've figured out that some of the principles, such as, "recognition rather than call" and "help and documentation" are using a poor approach, so it doesn't fulfil the needs of every category of users. First, the dialogs that can seem easy at the first view, turn out to be difficult to follow for unexperienced users, as it requires memorising some things. In addition, saved or created trips cannot be accessed offline, which can cause problems.

From the **interviews**, I figured out that there some important features missing. Some users had to recreate their trips, because they accidentally deleted some of them, and there is no feature of restoring the deleted trips. What is more, pointing on map seems to be difficult, as there can be more than one location in the same spot.

From **personal experience** in using the studying application Khan Academy, I have found out the following issues. First, the video materials are downloaded in a bad resolution that makes it not understandable to watch. Second, the articles cannot be saved to device's memory, so there is no way of accessing the written material without internet connection. Finally, while answering a quiz questions, there is no way to go back and review the answers.

By doing **competitor analysis** over three eating applications (JustEat, Deliveroo, UberEats)[1], I've discovered some trigger points that can make a user to use the application. First one is keeping in touch with user, a user always wants to stay informed. By allowing a user to track his/her food delivery, the trust over the application is increased. This approach is used by

Deliveroo and Uber Eats, however JustEat only uses a notifying system. Second point is remembering users' preferences, which makes people to stick to application and keep using it. There are several approaches used in the discussed apps: one is to provide a list of favourites restaurants and give users opportunity to add/delete restaurants from this list; approach used by Deliveroo and UberEats. Other one is to list the recently viewed restaurants and providing history list; approach used by JustEat.

Trigger points determine if the application is going to be used or not, it's vitally important to take them into consideration when designing a new app. One of best way of discovering these trigger points is interviewing people and analysing their behaviour.

By doing **interviews** using card sorting method, I've found out that 85% are using the saving app for the feature of tracking their expenses, 15% for saving money on holidays or further expensive purchase. So, I categorized the tracking of expenses as an essential feature. Then, one of my friends told that he keeps wasting money on different kind of goods he doesn't really need, the main reason is that he feels better when buying something new, but after some time he regrets that he didn't think about the purchase a bit more. From his words, I thought about a feature for the application that would allow user to create a separate space from his main balance, in this way, if my friend's money would be isolated, he would think twice if the good is worth buying or not. I called this feature - "creating pots" (see definition in appendix[3]).

By analysing each application in several different ways, I have found out that each of them has their plusses and minuses. Every application does its main function well, but there is room for improvement. I figured out several interesting features I would like to **implement** in my application:

Holidaying:

- Creating and planning your own trips and then inviting people to it
- Save favourite location on map
- View existing tours or create your own ones
- Sort restaurants/hotels/locations by rating
- Add and view feedback
- Check hotels' prices and facilities

Gathering:

- Creating events, adding time options and inviting people
- Compare the selected options and figuring out the best time for meeting
- Creating direct links to doodles so the other user won't need to have the app installed
- Opened chat and notes

Studying:

- Categorizing the articles
- Providing each article with some useful video materials
- Downloading articles and reading them offline
- Providing tests and quizzes for each course
- Remembering the location and returning the user to it for further reading

Saving and spending:

- Splitting the spent money into categories
- Providing infographics comparing income/outcome

- Listing transactions history
- Setting budget for expenses
- Creating pots (feature for saving money on different purposes)

Eating:

- List the popular restaurants
- Add / view feedback (giving stars and answering questions about service)
- Add to basket feature (adding ready meals and sides)
- Track the delivery
- Create a list of favourite restaurants

4. User requirements

Personas

Volodymyr



"All I want to know is where my salary goes"

Age - 24

Location - Kyiv, Ukraine

Life stage - Planning his wedding

Job - System Administrator

Motivators

Wedding - he's been dating his girlfriend for 4 years, now they finally decide to marry each other. But when planning the wedding, he faced a big problem. He cannot accumulate the necessary amount of money, because he is not able to control his expenses.

Behaviors

Gifts - he continues making his girlfriend gifts, from flowers to expensive gadgets or jewellery. Recently he bought her a new mobile phone

Online games - he is fond of online video games and he is buying virtual goods at a regular basis.

Ordering food - in weekends he and his future wife likes to rest, that's why they don't cook, instead they are ordering food.

Fishing - fishing is one of his main hobbies

Needs

- Better control over his expenses
- Would like to see his spending classified into categories
- Convenient monthly planning budget
- Keep track of the expenses of other family members
- Share personal and general expenses

Jade



"A healthy mind in a healthy body"

Age - 22

Location - Leeds, United Kingdom

Life stage - Student

Job - Bartender

Motivators

Sports - she is part of university volleyball women's team, she participates along with her team in various volleyball tournaments.

Healthy body - she wants to keep her body fit and healthy, as her dream is to develop her career in competitive volleyball.

Behaviors

Tightly schedules the day - in morning she is doing her daily warming up exercises. She is busy the whole day, besides attending classes, she has to attend volleyball sessions. In evenings she is usually working as a bartender in a local pub.

Gym - she is very motivated in keeping her body fit, when she has spare time she would spend it in a gym.

Ordering food - as her schedule is very tight, she doesn't have enough time to cook by herself. That's why, she often orders food delivery, but she is always careful about the ingredients, as she has allergies to mustard and soya. Moreover, she would always calculate the total amount of calories in her food.

Needs

- Keep her body fit
- Would like to view the full list of ingredients of the meal she is ordering
- Would like the app to show the amount of calories for each product/meal
- Would like to see the total amount of calories of her food order
- Would like to jump directly to the healthy food section

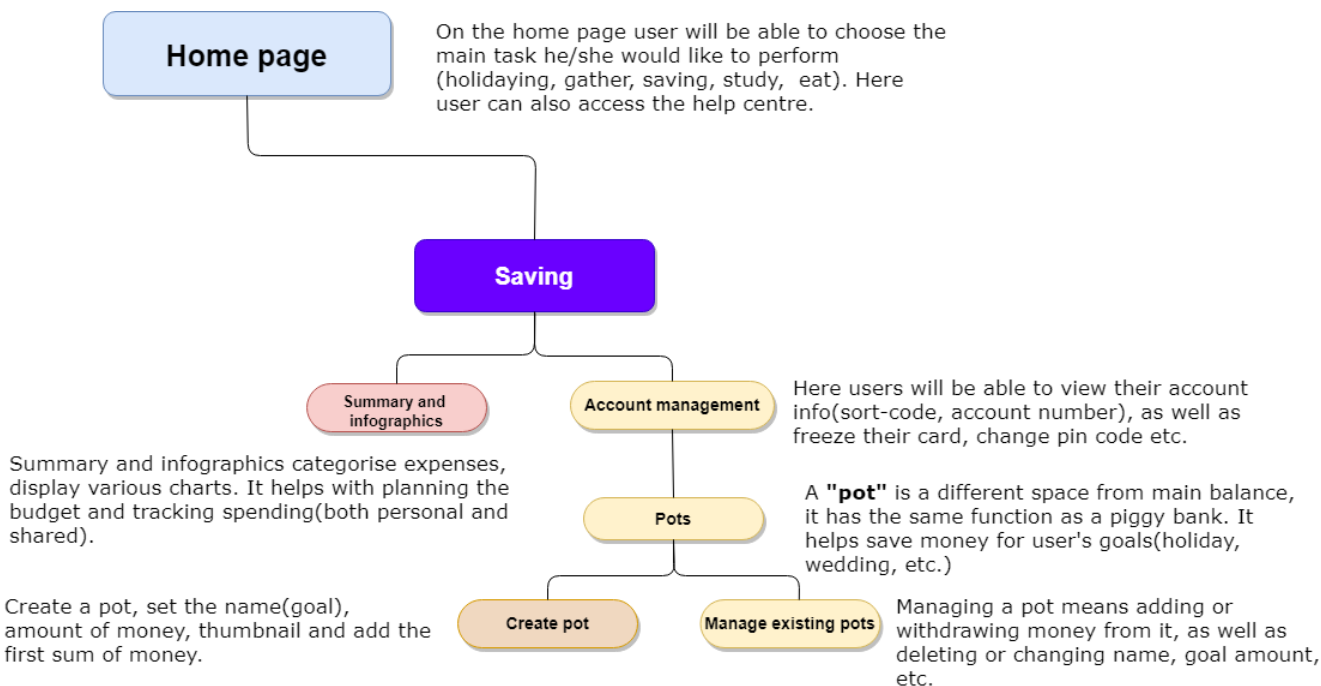
User requirements table

Claim/findings	User requirements	Rationale
Survey 1 85% would use an expense managing system for tracking over their spending; 15% would use it for saving money for their goals; 5% would use it to track family expenses.	Expenses should be all categorized into different areas of spending(food, car, entertainment etc.). Users should be able to create pots(see definition in appendix[3]). Users should be able to share their expenses between each other, as well as, track other users' expenses.	Users should be able to track where their money goes and be able to save money in a different space from their main balance (Volodymyr) Users should be able to share their expenses with family members, track spending of family members(Volodymyr)
Survey 2 90% would use an eating application for ordering food; 10% would use it for improving cooking skills	Users should be able to order and track food delivery, the process should be easy and require only a few steps. Every meal should display the ingredients its made of.	Users should be able to order food and track the food delivery (Volodymyr). Users should be able to view the ingredients of each meal (Jade)
Survey 3 80% would want an eating application to categorize all the food; 20% would want to calculate overall calories of the food they selected.	The main searching screen should display categories of food(burgers, wraps, pizza etc.) Each restaurant menu should categorize their meals. System should display the number of calories of each product and calculate the total amount of calories for user's order.	Users should be able to search for their preferred type of food (Jade). Users should also be able to view the calories of each product/meal and the total amount of calories in their order (Jade)

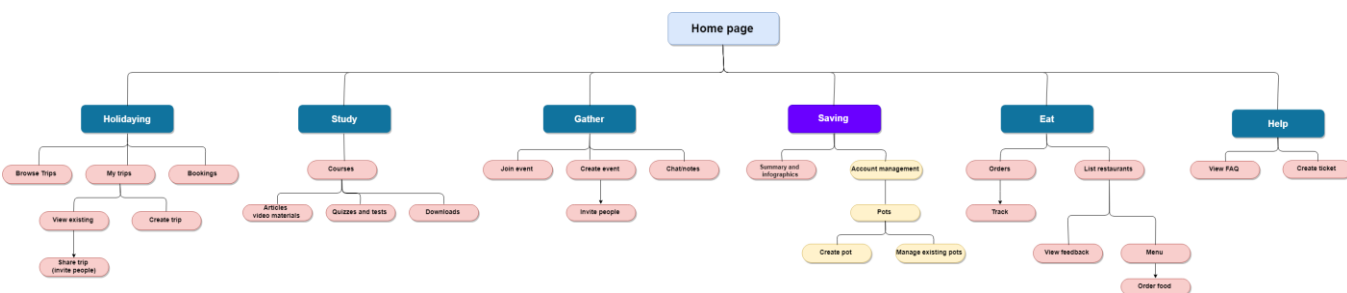
6. Site Map and task flow

Task flow diagram

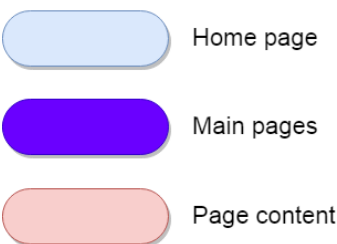
The following task flow diagram is related to users that are interested in managing their expenses as well as saving money for their further goals. It is related to Volodymyr, as his main motivation is to save money for his wedding.



Site map



Legend



The key features in my sitemap were: making the food order easier (save user's time), designing a system for saving money("pots") and displaying info-graphics and summaries over personal and shared expenses, which makes finance tracking more efficient.

I structured the content in this way to make the use of app as simple as possible, so that even unexperienced users will be able to understand and follow the way to their goals (in using app).

7 Wireframes



The above wireframes display the “route” of creating a new pot (saving money function), wireframes are linked to my sitemap through the home page and the navigation footer, it shows the task flow way and the “escape” routes and buttons. It has several accessibility features that makes it easier for the user to follow the logic. I’ve tried to make it as compact as possible to avoid extra development costs.

8 Key design changes

Key design changes:

- Creating and managing *pots*[3]: users should be able to isolate money in separate space from their main account (Saving).
- Personal and shared track over expenses: users should be able to track their own and shared expenses (requirement for family type users) (Saving)
- Tracking food delivery in real time: users should be able to track their food delivery in real time (Eat)
- List all the ingredients used in meals: users should be able to view the ingredients a meal is made of (requirement for allergics/vegetarians/religious type of users) (Eat)
- Categorizing food: users should be able to quickly search for their favourite type of food by selecting a category (Eat)
- Display calories for each product/meal and calculate overall energy(calories) of the user's order: users should be able to view the calories of each product/meal and they should be able to view the total amount of calories in order (Eat)

9 Appendices

1.Competitor analysis

Features	Deliveroo	JustEat	Uber Eats
View food categories	Yes	Yes	Yes
Search restaurants	Yes	Yes	Yes
View popular restaurants	Yes	Yes	Yes
Order food	Yes	Yes	Yes
View orders	Yes	Yes	Yes
Manage user's profile	Yes	Yes	Yes
Track delivery	Yes	-	Yes
List favourite restaurants	Yes	-	Yes
List recently viewed restaurants	-	Yes	-
Add to basket	Yes	Yes	Yes
Add feedback	Yes	Yes	Yes
View menu	Yes	Yes	Yes
View restaurant's info	-	Yes	-
View feedback	Yes	Yes	Yes

2. Heuristic analysis

In order to objectively review an app using heuristic analysis, I've devised a list of question to explore each layer of the application. Each question was given a score from 1-10. After comparing possible score(10 per each question) and the actual score, I've got the results in percentages(%).

Heuristic analysis TripAdvisor	
Visibility of system status	High
Match between system and the real world	High
User control and freedom	High
Consistency and standards	Average
Error prevention	Average
Recognition rather than recall	Low
Flexibility and efficiency of use	Average
Aesthetic and minimalist design	High
Help users recognize, diagnose, and recover from errors	High
Help and documentation	Average

2. Heuristic analysis table TripAdvisor

Legend: very high – 80-100%, high – 60-80%, average – 35-60%, low – 10-35%, very low – 1-10%

Where 100% being very good and 1% - very bad.

3. Pot – A pot is a different space from main balance, it has similar function as a piggy bank. It helps saving money for further goals. One's the money is added, user can't spend it on other needs.

References:

1.Some of the application pictures taken from <https://play.google.com/store>