DUBER

User Research, Requirements Gathering

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1. Research on the problem domain (background information on the topic).

A mobile application that delivers medicinal marijuana. Since legalization of marijuana is up and coming in Canada, there is an opportunity for developers to create applications that will help both recreational and medicinal marijuana users to gain access to marijuana strains from the different dispensaries in the area.

2. Identify the goals for the project.

We would like to provide a service for medical marijuana users to be able to get delivery service for their medication incase they are unable to drive, or would rather have the convenience of having their medication delivered to them.

3. Identifying functional and non-functional requirements of the system.

Functional Requirements:

- Landing page for users to visit initially
- Download app function (android/ iOS)
- Create Account / Sign In feature
    - User phone number
    - Password
    - Name
    - Email
    - Location (province / postal code)
    - Photo of driver's license / submit
    - Photo of authorized medical marijuana card / submit
    - Doctor form (for medicinal users)
        - Doctor Name
        - Doctor Location
        - Recommendation number
        - Recommendation expiry date
        - Clinic phone number
- Choose if you would like to share your location
- Ability to place orders
    - Authentication process takes place (takes up to 24 hours to validate the information provided, specifically doctor information and license)
        - Select supplier based on your location (ratings available in this section)
        - Menu is shown for the supplier chosen
        - Choose a strain with description
            - Origin of strain

- Effects of strain
- Reviews of strain
- Confirm total
- Place Order (search for available drivers)

Non-Functional Requirements:

- Performance and uniformity
- Security
- Capacity and reliability
- Maintainability and serviceable
- Availability

4. Discuss and document the requirements of the system.

Functional requirements can be broken into three major pieces that all come together to make Duber what it could be. First is the website which will display a description of the application and all it is capable of. It will also contain either a link to the app store to download the actual application or download it directly to the device. Once actually in the application the user will be brought to an account creation page. This will include all of the criteria listed above and will tailor the experience to each individual user in an attempt to lead to the optimal experience. Last and most important is the market portion of the app which will allow users browse and make purchases to suit all of their needs.

When discussing non-functional requirements, there are five key areas that are essential to the system. The first of these areas is performance and uniformity and this is grouped together as it is a given. This refers to the general aesthetic of the website and app as being pleasing and matching across all pages and platforms. This also encompasses that everything within the product should function and do so in a timely fashion. Next is security and this is something major as protecting the user's personal information and confidentiality is a top priority. Additionally, ensuring maximum server uptime and capacity to be available to customers is a high priority as this will allow for the the application to actually be used in the first place and gain a following. Serviceability is also a critical part of this as if anything ever goes wrong, systems need to be simple and available to repair to ensure uptime. Second to last we wanted to make sure it is available to the widest amount of users possible meaning the web page will work at various resolutions and window sizes as well the web page should be available on all browsers and both mobile devices and computers. Lastly this means that the app should be available for both Apple and Android products. Finally we wanted to allow for our application to maintainable so as to keep it both relevant and reiterate that it can be a successful business venture.

5. Conduct expert evaluation of the existing systems (competitor benchmarking: cognitive walkthrough, heuristic evaluation of the existing system against 10 heuristic NNG principles).

Rule	Applied?	Violated?	Improvements?
Visibility of System Status		Yes	Overall stores and drivers available would be appealing to the user.
Match between System & Real World		Yes	"Get the App" is actually a responsive section of website. Not an actual mobile app. Misleading.
User Control & Freedom		Users cannot backup through application process	
Consistency & Standards		Incomplete form validation. Unsuccessful user uploads. Invalid user location. Product description errors. Failure to locate drivers.	
Error Prevention		No error messages received. Available drivers is always none.	
Recognition rather than Recall	Advancing through application is relatively intuitive.		
Flexibility & Efficiency of Use		Designer's kept the design basic. No QA was consulted.	
Aesthetic &	Design is clear,		

Minimalist Design	simple and easy to navigate.		
Help users recognize, diagnose & recover from errors		No recovery from errors. User must restart whole process. User does not know they have reached an error.	
Help & Documentation		No FAQ or help pages are available.	

6. Conduct user research: who the users are. Conduct usability testing of existing system(s) (guerrilla usability testing).

There are two criteria for which clientele will be required to meet for Duber to applicable to. First they must have a diagnosed condition that is treatable with medical marijuana and second they must have access to some form of mobile device whether it be smartphone or tablet. This is a very large market in today's world as just about anything can be treated this way if you ask nicely enough and it is almost unfeasible to have no form of mobile device. There are little to no alternatives (Budly being the only example). This is why this application is so desirable to pursue.

A typical exchange using Budly could be as follows('-' indicating negative and '+' indicating positive):
- - Receive a diagnosis
- + Find out it can be treated with medical marijuana
- + Discover Budly exists
- + Create account and browse options
- + Make an order
- - Wait for order
- + Receive package and indulge in medicine

7. Reflect on current practices: when, where, why, and how users are currently accomplish the similar tasks.

Currently there are no official applications for this area that provide medical marijuana users with this type of service.

In California there are several suppliers signed up and using a similar application.

Currently a user can choose to download the Budly application. They can use this application on their phone or access it on their computer. They enter their details and medical information, set their location and place an order. Users do this so they can get marijuana and marijuana related items delivered to them for consumption.

8. User wish list for improving how they currently accomplish their task.

1. There is a bug in Budly's system where the strain does not change when choosing alternate strains to look at for purchase, this frustrates/confuses the users. They are afraid of making a purchase could end up with the wrong strain being ordered. Our system will be fully functional and avoid having bugs like that.

2. There is a bug when logging into the Budly website. It allows you to skip over the required fields (doctor rec #, photo ID, medical marijuana card) and go directly to placing an order. This is a large error on the website's behalf as it skips over all the legally required fields that should be authenticated before allowing a user to place an order.

9. Use combinations of methods for gathering requirements and user research (observations, surveys, focus groups, interviews).

Survey Monkey

Link to survey to gather application requirements:
https://www.surveymonkey.com/r/FJ9JNVW

Link to display results from the survey:
https://www.surveymonkey.com/results/SM-SS99GLB6L/

1. What is your gender?

ANSWER CHOICES	RESPONSES	
Female	25.00%	3
Male	75.00%	9
TOTAL		12

2. What is your age?

ANSWER CHOICES	RESPONSES	
18 to 24	50.00%	6
25 to 34	41.67%	5
35 to 44	0.00%	0
45 to 54	0.00%	0
55 to 64	8.33%	1
65 to 74	0.00%	0
75 or older	0.00%	0
TOTAL		12

3. Are you a marijuana user?

ANSWER CHOICES	RESPONSES	
Yes	25.00%	3
No	75.00%	9
Other (please specify)	0.00%	0
TOTAL		12

4. Do you have a prescription for medical marijuana?

ANSWER CHOICES	RESPONSES	
Yes	8.33%	1
No	91.67%	11
TOTAL		12

5. Do you have a smartphone?

ANSWER CHOICES	RESPONSES	
Yes	91.67%	11
No	8.33%	1
TOTAL		12

6. Would you use an app to order marijuana?

ANSWER CHOICES	RESPONSES	
Very likely	16.67%	2
Likely	25.00%	3
Neither likely nor unlikely	25.00%	3
Unlikely	16.67%	2
Very unlikely	16.67%	2
TOTAL		12

7. Would you use a delivery service for your marijuana orders?

ANSWER CHOICES	RESPONSES	
Very likely	25.00%	3
Likely	41.67%	5
Neither likely nor unlikely	0.00%	0
Unlikely	16.67%	2
Very unlikely	16.67%	2
TOTAL		12

8. How many strains would you like to be able to choose from?

ANSWER CHOICES	RESPONSES	
5	11.11%	1
10	11.11%	1
15+	77.78%	7
TOTAL		9

9. What symptoms (if any) are you getting treated for?

10. Do you have any other comments, questions or concerns?

10. Present results using descriptive statistics, user characteristics tables, and creating personas techniques.

Descriptive statistics:

Effectiveness: placing an order on Budly's existing platform, would be a challenge for both our personas. Each of them possesses some computer skills, but would surely run into an area that they cannot proceed from, as returned during our own testing.

Efficiency: Budly's platform could be efficient, due to its minimalist design. Users could place an order in a very small amount of time, but unfortunately we were not able to successfully

place an order due to the numerous bugs in their system.

Conducted Survey Gender Statistics:
Predominantly Male.
Average age: 25 – 34
Average user is not a marijuana user.
Average does not have a prescription for medicinal marijuana.
Average user does have a smartphone.
Average user is neither likely nor unlikely to use an app to order marijuana.
Average user is neither likely nor unlikely to use a delivery service for marijuana.
Average user would prefer 15+ strains to choose from.

User Characteristics Tables

George	
Demographic Characteristics	Ailments (PTSD). Driving Restricted
Occupational Experience	Any
Education	Any
Computer Experience	Browsing experience
Tasks	Create account, add to cart, purchase
Domain Knowledge	Minimal
Attitude	Open to alternative medicine
Values	Health oriented
Learning Style	Any

Dave	
Demographic Characteristics	Middle-aged, Veteran
Occupational Experience	Combat Medic
Education	GED
Computer Experience	Browsing experience
Tasks	Create account, add to cart, purchase
Domain Knowledge	Minimal

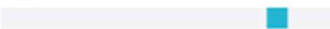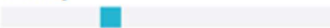|	
Attitude	Open to alternative medicine
Values	Health oriented
Learning Style	Visual

User Persona #1:

George

Suffering from the pain associated with Arthritus

Age: 62
Work: Retired
Family: Married, 4 Children
Location: Kelowna, British Columbia

Personal Description

George is a husband, father, and worked in finance for over thirty years. George was diagnosed with Arthritis when he was 55 years old. The chronic pain and mobility issues led George to an early retirement, and he has depended on the use of medical marijuana since to aid in his ailments.

Medicinal Marijuana Benefits

- Pain relief
- Increased social life
- Better sleep

Symptoms

Pain

Anxiety

Sleep Deprived

PTSD

Frustrations

- Chronic pain
- Expensive medication
- Mobility issues derived from Arthritis
- Inability to drive

Dave

Personal Description

Dave is a husband and father of two and a war veteran. Dave suffers from severe PTSD and anxiety following his time spent in the army. Dave chooses medical marijuana to ease his anxiety for a better quality of life.
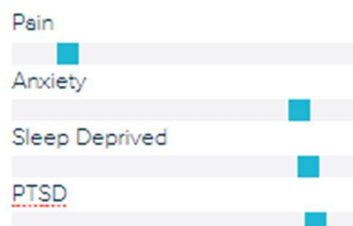
Medicinal Marijuana Benefits

- Relief of anxiety
- Increased social life
- Better sleep

Suffering from anxiety and PTSD from his years in the army

Frustrations

- Severe Anxiety
- PTSD
- Agoraphobia
- Affected social life

Age: 55
Work: Retired
Family: Married, 2 Children
Location: Kelowna. British Columbia

Symptoms

Pain

Anxiety

Sleep Deprived

PTSD

11. Identify primary, secondary, and tertiary users of the system.

Primary Users: Medicinal marijuana users and dispensaries.

Secondary Users: Doctors

Tertiary Users: Banks of patients for taking funds out after purchase and banks for dispensaries for deposits from patients.

12.Using one of the analysis techniques (scenarios, use cases, hierarchical task analysis), refine the task.

Provide a scenario:

George, a 62 year old male, has heard about the benefits of using medical marijuana from the channel CBC on TV. Being curious, he decides to Google medicinal marijuana. As Duber is a popular website/application, its advert is listed near the top of the Google search results.After reading some articles that back up the benefits, he scrolls back up to the top of the Google search results and clicks the link to learn about this Duber service.

Part of the advertisement highlighted the fact that there is a delivery option available. George has extreme arthritis and has limited mobility, so the ability to get his medicine delivered to him is an important feature for him. George decides to sign up to the Duber website and see what dispensaries are nearest to him. He is new to the world of marijuana usage, so he finds its helpful that the app lists the different strains, their potency and qualities that are suited for different ailments. After finding a suitable strain for his needs, he selects a dispensary that is located in his hometown. Unsure if he fully trusts this application, he decides to pay when the delivery driver drops off the order, as opposed to paying online. At the time he makes an order, there are no delivery drivers available but he was informed that he will get a text message when a driver becomes available. After 15 mins, he receives a text that says a delivery driver will be by in 30 mins with his order. After 30 mins the driver arrives with his order, George pays with his debit card, and off goes the driver. Success.

14.Incorporate to the report related documents (photo shots of the whiteboard from your ideation meetings, samples of surveys, statistics analysis, sample notes from the interview, scenarios, personas, etc).

Brainstorming session:
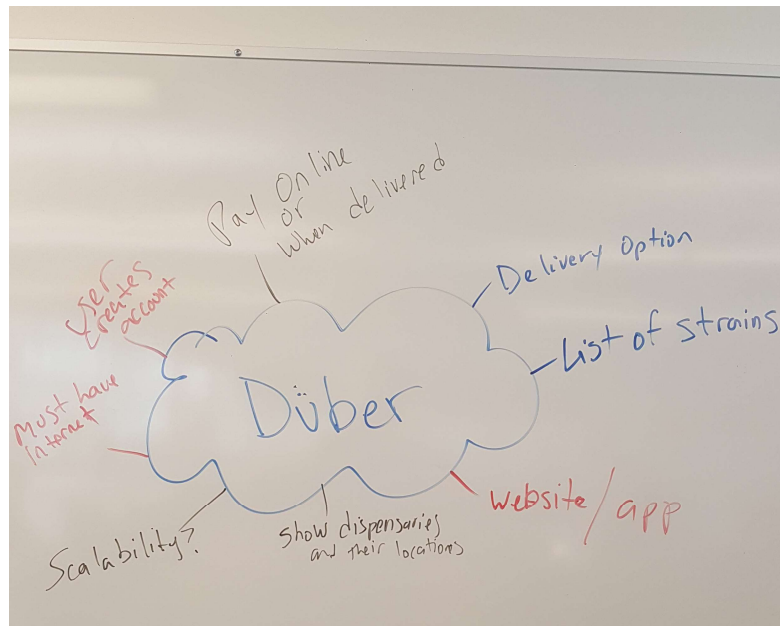
Notes from an Interview:

- 21-year-old male
- User has a medicinal marijuana license
- Does not consume marijuana very much
- User has a smartphone and is familiar with installing applications
- Has never considered using a smartphone to get their marijuana
- Would probably use their phone to make an order for marijuana
- Would not use the app if they had to pay for it – would find a free one instead
- Would like the app to be easy to use/intuitive
- Thinks a semi professional tone to the app would be good, too professional is boring, not professional enough would lose their trust in using it with financial information
- Thinks the delivery option is a good idea

Report

       Canada is about to enact laws which will see the legalization of Cannabis for both medical and recreational purposes. With this legislation being passed there will be an opportunity for developers to create applications that will help individuals gain access to marijuana. The Duber group has positioned itself to address the needs of medical marijuana users. A problem domain that has been uncovered is *access*. Some people that require medicinal marijuana may lack the mobility needed to pick up their prescription. Furthermore, a user may be intoxicated from consuming their medicinal marijuana and need more, instead of them having to drive while intoxicated they will be able to place an order through our app and have it delivered safely.
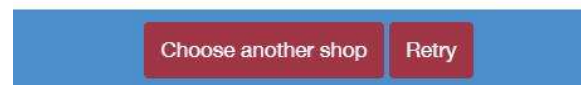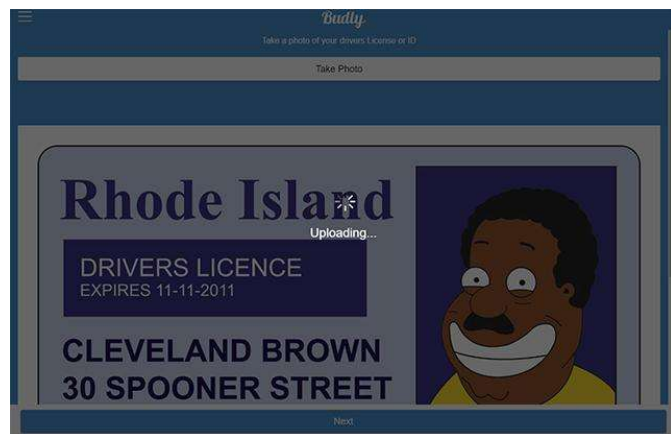
       The goal for our project is to provide a service for medicinal marijuana users that will help them achieve greater levels of access to their medication.

       Functional requirements for this application have been gathered by taking in to consideration similar products that offer similar services such as Skip the Dishes, and Budly. By incorporating aspects of these applications and having a good understanding of the standard functionality of applications through our time as students learning the field of computer science, we have been able to gather functional and non-functional requirements for this application. Please see Findings section for an overview of the requirements we have gathered.

       An evaluation of Jacob Nielson and Molich's user interface design guidelines on our competitor's website, Budly.com, resulted in numerous violations. First, their application does not display the system's status to the user. An overall real-time total of available stores and drivers would be a thoughtful recommendation. Second, Budly mostly matches their system with the real world, with the exception of their application definition. Both their iOS and Android applications are actually specifically designed responsive web portals, rather than an actual downloaded application. Third, user control and freedom is violated. A user cannot revert to a previous page during their order placement. This feature is completely missing from the design. Fourth, consistency and standards are grossly violated. Almost all input fields do not have any form validation and consequently could allow a user to submit an order with no details about the user. In addition, loading an image of a user's personal identification or medical marijuana license fails and returns an endless loading screen.

Furthermore, all products in a single store return the same description, and a driver could not be found in a metropolitan area during tests. Fifth, error prevention does not exist in Budly. A user can perform simple actions and be left with a page that continuously hangs. Sixth, Budly's application is relatively intuitive, should it function properly for a user. A user does not have to rely on recollection when placing an order. Seventh, flexibility and efficiency of use could be vastly improved. The user interface designers chose a responsive design throughout, but neglected to respect user input fields. As a result, a user can enter any string of text and potentially submit an order with incomplete contact information. Eighth, Budly's design is clear and retains a minimalist design; surprisingly this rule is not violated. Ninth, if a user makes a mistake during their order process, they must completely start over, as a result, this violates Nielson's recoverable error law. Finally, for an application, it is common to have a help section or frequently asked questions. Unfortunately, this is not available through Budly.

The following are personas and characteristic tables of two typical users of Duber.

George

Personal Description

George is a husband, father, and worked in finance for over thirty years. George was diagnosed with Arthritis when he was 55 years old. The chronic pain and mobility issues led George to an early retirement, and he has depended on the use of medical marijuana since to aid in his ailments.

Suffering from the pain associated with Arthritus

Age: 62
Work: Retired
Family: Married, 4 Children
Location: Kelowna, British Columbia

Medicinal Marijuana Benefits

- Pain relief
- Increased social life
- Better sleep

Symptoms

Pain

Anxiety

Sleep Deprived

PTSD

Frustrations

- Chronic pain
- Expensive medication
- Mobility issues derived from Arthritis
- Inability to drive

George	
Demographic Characteristics	Elderly
Occupational Experience	Financial Sector
Education	Masters of Business Administration
Computer Experience	Proficient in financial software
Tasks	Create account, add to cart, purchase
Domain Knowledge	Minimal
Attitude	Open to alternative medicine
Values	Mental health oriented.
Learning Style	Solitary

Dave

Personal Description

Dave is a husband and father of two and a war veteran. Dave suffers from severe PTSD and anxiety following his time spent in the army. Dave chooses medical marijuana to ease his anxiety for a better quality of life.

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- Relief of anxiety
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Frustrations

- Severe Anxiety
- PTSD
- Agoraphobia
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Suffering from anxiety and PTSD from his years in the army

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Demographic Characteristics	Middle-aged, Veteran
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Education	GED
Computer Experience	Browsing experience
Tasks	Create account, add to cart, purchase
Domain Knowledge	Minimal
Attitude	Open to alternative medicine

Values	Health oriented
Learning Style	Visual

Currently in Canada, there are no applications that provide medicinal marijuana users with the ability to make orders and have them delivered to their doorstep; not in the local region of the Okanagan, or in Canada as a whole. Looking outside of Canada, developers in California have created the application called "Budly," which provides people with the ability to browse products, purchase them, and have their orders delivered to them.

A user is able to access the application through the web, or on their smartphone once they have downloaded the app. A user will have to create an account by entering their personal information for identification and any medical details such as prescriptions for medicinal marijuana and their doctors name. The user chooses their location and the application will display dispensaries near them. The user can select a dispensary and they will be presented with a list of that dispensaries products. Once a user has found a satisfactory product, they can create an order and fill out the quantity. The app then gives them the estimated time of delivery or informs the user that their are currently no drivers available for delivery.

There is a bug in Budly's system where the strain does not change when choosing alternate strains to look at for purchase, this frustrates/confuses the users. They are afraid of making a purchase could end up with the wrong strain being ordered. Our system will be fully functional and avoid having bugs like that.

There is a bug when logging into the Budly website. It allows you to skip over the required fields (doctor rec #, photo ID, medical marijuana card) and go directly to placing an order. This is a large error on the website's behalf as it skips over all the legally required fields that should be authenticated before allowing a user to place an order.

The application can be improved upon by addressing these bugs, as well as improving upon the error handling for the application. Streamlining the input process for users by keeping valid information in place and only removing incorrect information will increase efficiency and decrease the time it takes to place orders/create an account.

A survey has been created to find out if users will indeed use this application if it was available, and research how many products would be ideal to show the users for selection. The survey also includes some questions relating to demographics, such as how old the users are and their gender. The survey was disseminated through the college OC discord channel, which was good for providing us with some initial results, but it would be more useful to get data from users outside the college domain, such as seniors and middle age users.

An interview of a medicinal marijuana user was also conducted to elicit more helpful information for the application development and features. Another good source of information would be to interview a dispensary owner and find out how they envision their information and products be presented to users. Since all the dispensaries have been shut down recently, we were not able to interview any dispensary owners.

The primary users for this application will be the medicinal marijuana patients themselves, and the dispensaries that would like to offer their products to these patients. These two groups will interact with the application the most, and as such will have the biggest impact on the design of the application.

The secondary users that we have identified for this application will be the doctors that choose to endorse this service. They can inform patients that this service exists, and for the especially enthusiastic supporters, they may even help sign users up and give them a quick overview of the application.

The tertiary users of this product will be the banks of both the dispensaries and the medicinal marijuana users. If the users opt in for the online payment method access to their bank account will be necessary for the withdrawals, and the dispensaries banks will be needed to have funds deposited after the transaction has occurred.

Duber will provide an easy to use application for users in an up and coming period where medicinal marijuana is valued by many members of our community. Through extensive research, surveys, interviews and comparisons, our group has come up with a web application that is relevant and useful to users today. The user research and requirements gathered has provided us with the knowledge of likely users, potential platforms and user preferences; in turn allowing us to make the application as efficient and useful as possible.

References

https://www.budly.com