

Project Requirement Document

Healthy Belly

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Goals

The purpose of this project is to improve the shopping experience for Pregnant Women and the families/friends of said pregnant women. It will save the users the hassle of carrying or memorizing a long list of ingredients that are unsafe for both the pregnant women and the babies carrying them. Instead of users reading through multiple nutritional/ingredient label they will simply scan the barcode of the item they scanned. It will facilitate a new process since shopping aid for Pregnant Women does not exist in the current market.


The closest aid for Pregnant Women are applications that simply inform the users about ingredients to avoid, not the products that could have those dangerous ingredients. Healthy Belly will be doing exactly that! Our Application will search through the ingredients of the product scanned and will inform the user of whether the item scanned is safe or not. We aim to make a bug free app that will run smoothly to make lives easier for pregnant women and their families.

User Personas

- Emily Wilkerson

PROJECT: untitled

| NAME | TYPE |
|-----------------|----------|
| Emily Wilkerson | Rational |



Goals: Being able to have a healthy baby, being able to pick food that is healthy as fast and easy as possible.

Quote: I just want something to tell me what i can and cant eat without having to read long paragraphs.

Background: Emily is a future mom. She works as an accountant in a busy firm. Due to this she needs to rush through her lunch break so finding time to do research on what to eat can be difficult due to time constraints. Also being a first time mom she has very little knowledge on what she needs to eat in order to have a healthy baby.

Demographic

Female 32 years



Los Angeles

Married


accountant

50,000 a year

Technology

Browsers



Channels

Motivations

- Easy feedback on what i can eat
- All the information i need to know about pregnancy diet all in one place
- quick way to check if can eat this food.


Frustrations:

- wasting time reading labels.
- wasting time looking up information about ingredients.
- Not having all the information needed about diet in one place

- Kevin Smith

PROJECT: untitled

| | | | |
|------|-------------|------|----------|
| NAME | Kevin Smith | TYPE | Rational |
|------|-------------|------|----------|



Goals: To provide support for his wife in order to make her pregnancy a little easier and to have a healthy baby

Quote: You know since im so busy bringing my dream all together i dont have time to google what's okay for my wife to eat

Demographic

☒ Male
 ☐ Female
 28 years

☒ Los Angeles
 ☐ New York

☒ Married
 ☐ Single

☒ chef
 ☐ Teacher

☒ 45000 a year
 ☐ 50000 a year

Background: Kevin is a chef at a restaurant that knows how to make good food but doesn't know what food is good for his pregnant wife. Since hes a chef his wife sends him grocery shopping. Kevin always has trouble shopping for groceries due to his lack of knowledge on what food is good for his wife. He spends a lot of time googling ingredients and communicating with his wife trying to figure out if she is able to eat certain foods or not.

Technology

☒ Phone
 ☐ Tablet
 ☐ Smartwatch

Browsers

☒ Chrome
 ☐ Firefox
 ☐ Safari

Channels

Motivations

- All the information he needs in one place
- Doesnt want to bother his wife by asking question
- Wont have to worry about what his wife can and cant eat.


Frustrations:

- wasting time reading labels.
- wasting time looking up information about ingredients.
- Not having all the information needed about his wife diet in one place
- Has to constantly ask his wife what she can and cant eat

- Alan Grant

PROJECT: untitled

| | | | |
|------|------------|------|----------|
| NAME | Alan Grant | TYPE | Rational |
|------|------------|------|----------|



Goals: To help patients have the healthiest babies possible and to help guide them to a healthy diet.

Quote: Its hard to explain to patients why they can or cant eat something and i don't want to give them a giant list of things they can and cant eat.

Demographic

Male 56 years


Los Angeles


Doctor

150,000 a year


Background: Alan Grant is a Doctor at a very popular hospital. He works with pregnant women and helps them through their pregnancy by teaching them about nutrition.He spends every day explaining to patients why they cant eat something, what foods should they avoid, what food is recommended. He gives out pamphlets and pages of nutritional information for expecting mothers hoping that they will read it and follow the guide he gave them.

Technology





Browsers



Channels

Motivations

- I want something i can recommend to my pregnant patients to help them with their nutritional needs
- I want something that wont overwhelm my patients with information and can give them the information they need quick and easy
- I want something that they can access anytime if they have questions about what they can and cant eat

Frustrations:

- It takes alot of time to go through each list of things a patient can and cant eat.
- He cant be there to answer every question a patient has about diet
- Patients can feel overwhelmed by the amount of papers that are given to them with nutritional information

User Stories

Epic 1: Barcode scanner

| | |
|----------------|-----------------|
| Target Release | 1.0 |
| Epic | Barcode scanner |

Requirements

| # | User Story Title | Description | Priority |
|---|-----------------------------|--|----------|
| 1 | Scan Barcode | As a user, I should be able to scan the barcode of an item, so that I may learn of it's ingredients/contents | High |
| 2 | Item safe to consume or not | As a user, I should be able to determine whether an item scanned is safe, so that I may consume it | High |

Epic 2: Profile

| | |
|----------------|---------|
| Target Release | 2.0 |
| Epic | Profile |

Requirements

| # | User Story Title | Description | Priority |
|---|------------------|--|----------|
| 1 | Create Profile | As a user I should be able to make a profile, so that I may enter my personal dietary restrictions | High |

| | | | |
|---|-----------------------------|--|--------|
| 2 | Item safe to consume or not | As a user, I should be able to determine whether an item scanned is safe, so that I may consume it | High |
| 3 | Share Profile | As a user I should be able to share my profile with another person, so that the other person may not require to enter my information again | Medium |
| 4 | Input allergies | As a user, I should be able to input my allergies/diseases, so that the food I eat are both safe for me (due to health reasons) and safe for my baby | High |

Epic 3: Information

| | |
|----------------|-------------|
| Target Release | 3.0 |
| Epic | Information |

Requirements

| # | User Story Title | Description | Priority |
|---|------------------|-------------|----------|
|---|------------------|-------------|----------|

| | | | |
|---|--------------------------|--|------|
| 1 | Search food without scan | As a user I should be able to search a food without scanning it, so that I may find information on foods without barcode | High |
| 2 | Simplicity of UI | As a user I should be able to use the application without needing any information on how to use the app. | High |

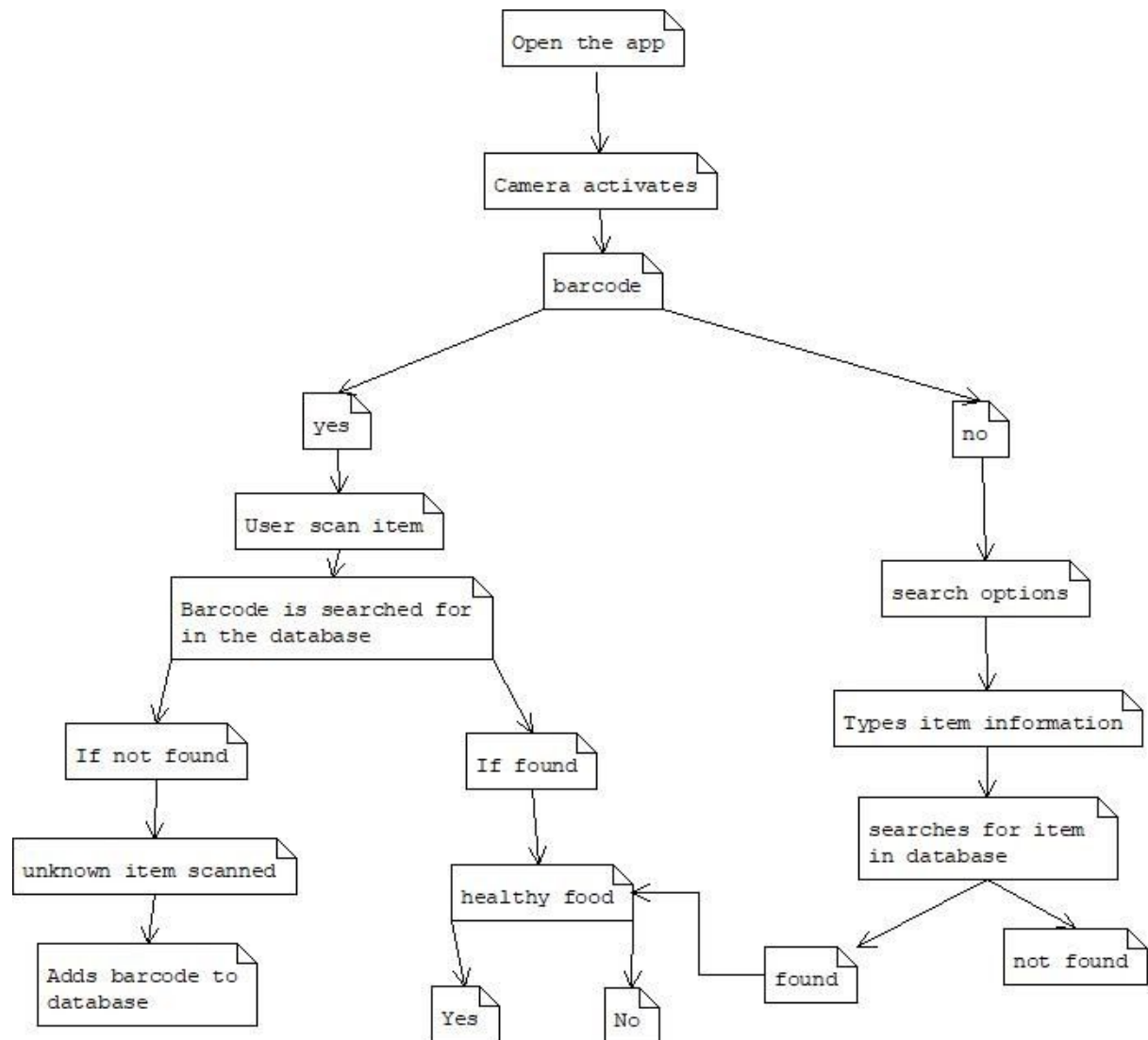
Epic 4: Application

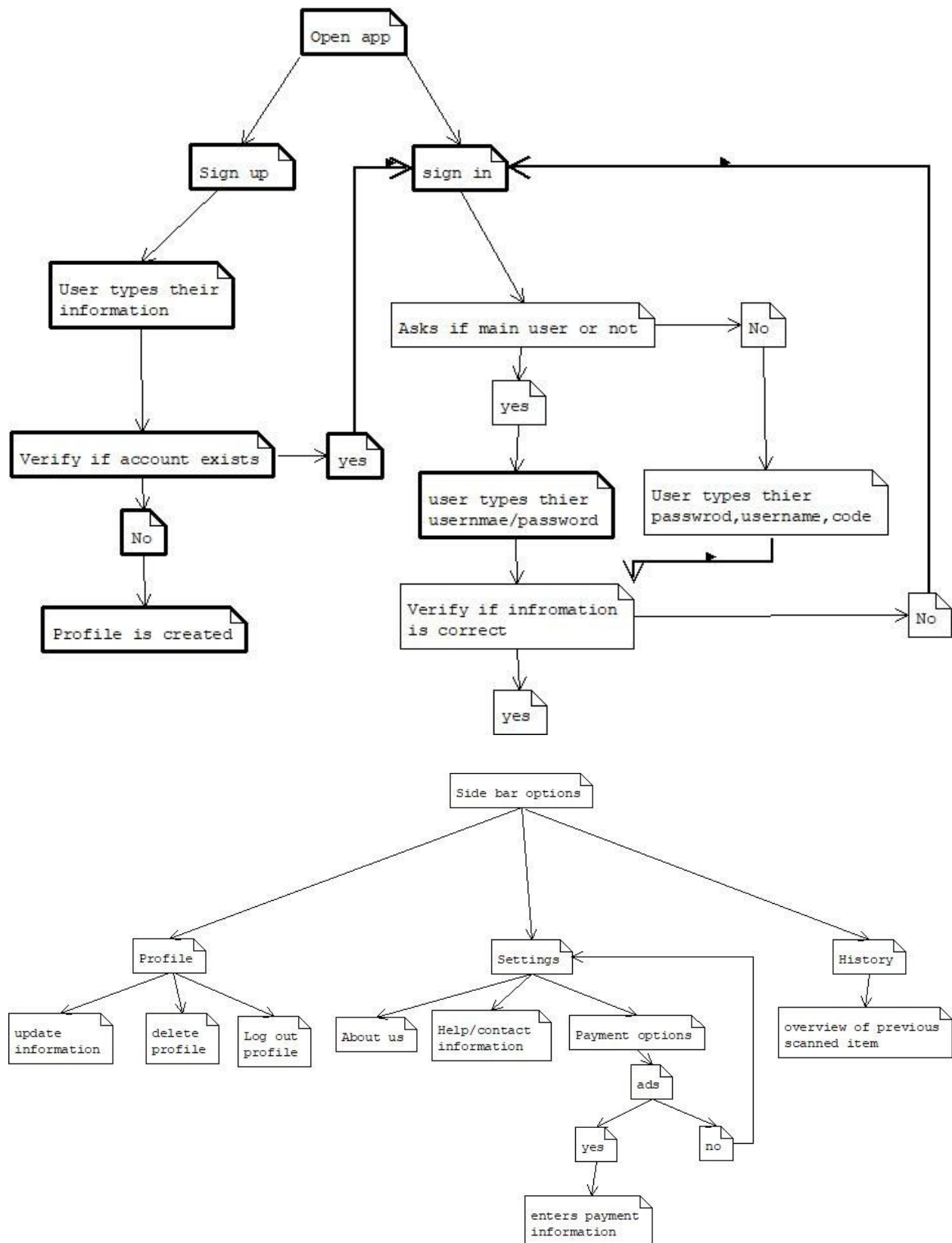
| | |
|----------------|-------------|
| Target Release | 4.0 |
| Epic | Application |

Requirements



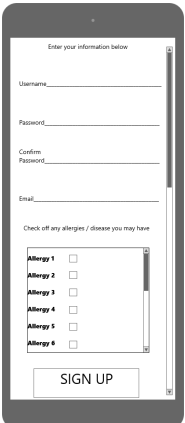
| # | User Story Title | Description | Priority |
|---|---------------------------------------|---|----------|
| 1 | An application that does not crash | As a user I should be able to run the app without crashing it | High |
| 2 | Smooth transition between each screen | As a user I want smooth transition between each screen | Low |




Server Sitemap


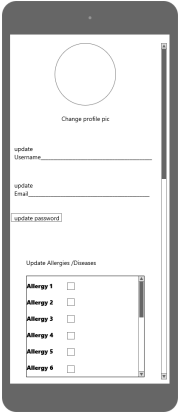
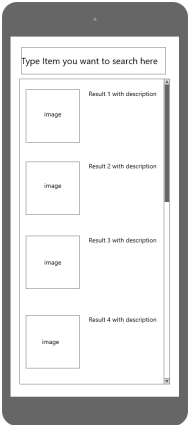





Wireframes

| | |
|----------------|---|
| <p>Home</p> |  <p>A mobile app wireframe for the Home screen. It features a dark grey header bar. Below the header, the text "HEALTHY BELLY" is centered. Further down, there are two buttons: "SIGN IN" and "SIGN UP", each enclosed in a light grey rectangular box.</p> |
| <p>Sign in</p> |  <p>A mobile app wireframe for the Sign in screen. It features a dark grey header bar. Below the header, the text "HEALTHY BELLY" is centered. Underneath, there is a label "Enter your username and password". Below this label are two input fields: "Username:" and "Password:". At the bottom, there is a button labeled "Enter" inside a light grey rectangular box.</p> |
| <p>Sign up</p> |  <p>A mobile app wireframe for the Sign up screen. It features a dark grey header bar. Below the header, the text "Enter your information below" is centered. Underneath, there are four input fields: "Username:", "Password:", "Confirm Password:", and "Email:". Below these fields is a section titled "Check off any allergies / disease you may have". This section contains a list of six items, each with a checkbox: "Allergy 1", "Allergy 2", "Allergy 3", "Allergy 4", "Allergy 5", and "Allergy 6". At the bottom, there is a button labeled "SIGN UP" inside a light grey rectangular box.</p> |

| | |
|-------------------------|--|
| scan |  A smartphone screen with a dark grey border. At the top, the text "SCAN ITEM" is displayed. Below the text is a square QR code. A small white arrow points to the left, positioned to the left of the QR code. At the bottom of the screen is a circular home button icon. |
| Item is safe to eat |  A smartphone screen with a dark grey border. At the top, the text "SCAN ITEM" is displayed with a small square icon to its left. Below the text is a large circular area containing a thick black checkmark. At the bottom of the screen is a circular home button icon. |
| Item is not safe to eat |  A smartphone screen with a dark grey border. At the top, the text "SCAN ITEM" is displayed with a small square icon to its left. Below the text is a large circular area containing a thick black exclamation mark. At the bottom of the screen is a circular home button icon. |

| | |
|-------------------------|--|
| <p>Quick navigation</p> |  |
| <p>Profile</p> |  |
| <p>search</p> |  |

| | |
|-----------------|--|
| <p>About us</p> |  |
| | |

Interfaces

Users: Users will initially will be only in the US, due to our media influence. But due to the ever growing database we are using (OpenFoodFacts.org) we have the potential to go international! People from around the world will be able to use our Apps.

Admins: Our Admins, once the App is up and running, will be monitoring the services and keeping up with the medical world to ensure the Information stays up to date and that any updates, whether good or bad, be dealt with in a timely manner. In addition, we will constantly conduct penetration testing to ensure our App does not fall victim to an attack.

Channel Partners: We at the moment do not have a Channel Partner, but once the App grows, we will change our database and connect with Edamam, a private database provider with securer services at a price. They will also provide API to connect with our App

External API: Will have one, but like mentioned above, could have two in the future. The external API will be Google's Mobile Vision API. It is a Barcode parsing API that will deal with Barcode reading

External Sites: The external site will be OpenFoodFacts.org Database.

Additional Functional Requirements

Device: Users must have a smartphone that has a working camera. If the camera does not work or there are scratches on the lens, our app will not be able to scan the barcode.

OS requirement: As we have decided to make the app only for android devices, users who want to use our app will need to have Android 5.0 or later on their smartphone. About 85% of the android phones worldwide run on Android 5.0 or later, so most people will be able to use this app.

Internet connection: Since we are planning on using an online database and it has to be run from a web server, users must have data connection or WiFi to run Healthy Belly.

Non-functional Requirements

In no particular order, here are the non-functional requirement our team will be focusing on throughout the project to ensure the success and continued use of the product we will be launching.

- Performance: As the focus of our software will be to make it easy for people to scan food and get a result back as they are shopping we want the software to have a quick response time and feedback to the user as they interact with it. This covers not only the performance of our own algorithms, but the response time of the software interacting with the database. We also want the application to run efficiently on devices as battery life has been shown to be a factor in what applications users use over others.
- Scalability: We want our software to maintain its capability and performance as more and more users interact with it. This means that scalability will be an important factor as we do not want to have our servers not be able to handle more and more traffic as more users download and use the application simultaneously.
- Availability: Once again, our software has to be able to be used at any moment's notice so keeping the availability of the servers that the application will request information from is pivotal to the success to the success of our software.
- Reliability: We want to make sure that the information that is being delivered will always be correct and up to standard as our application aims to help people decide what to and what not put into their bodies during pregnancy.

- Recoverability: If our servers were to go down we need to be able to make them available again quickly and efficiently to keep our users trust.
- Maintainability: The most important aspect of the software where we must make sure maintainability will be in both our servers and our machine learning that aims to give people recommendations. We want to make sure the recommendations will be not only appropriate but satisfactory to the user.
- Security: Because we plan on having user profiles that may deal with private information it is important that that kind of data is kept safe from any adversary.
- Integrity: As stated above our application will use user's characteristics, such as trimester and allergies/dietary restrictions in order to determine what is safe to eat and what is not. Thus it is of utmost importance that the data in our servers, both user and food databases, keeps as perfect integrity as possible as one mistake could be the difference between life and death.

Performance Requirements

Minimal Specs:

Android Version 5.0 (Lollipop) or higher

Must have a working Camera

Must have internet Access

Future Iterations

One of the most advanced and amazing functions we plan on adding to the Healthy Belly Application is the ability to scan actual Food in front of them! Be able to tell whether the food on their plate is safe to eat! It will work the same way like Google's Pixel camera works.

We want to expand to the iOS operating system first, followed by multiple language support (such as Spanish).