Project Requirements

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Contents

Introduction

This document details the initial functional, non-functional and domain requirements that we have identified from the extensive research that we have carried out. These requirements are likely to change over the course of the project as we look to constantly engage our target audience to ensure that we are effectively implementing these. As we do this, we predict that the customers will identify new requirements and feel that some requirements are not as important as they first thought.

Below the list of functional, non-functional and domain requirements we have prioritised the requirements using the MoSCoW method. This will allow us to easily identify the criticality of requirements and will also clearly indicate to us whether the project has been successful.

Functional Requirements

These are requirements that determine how the system should behave and how it should react to particular inputs.

Iteration One

1. Ability to register an account- Web
2. Ability log in to that registered account - Web
3. Ability to reset password- Web
4. A user will be locked out after 5 failed attempts- Web

Iteration Two

1. Ability to register an account- Android
2. Ability log in to that registered account - Android
3. Ability to reset password- Android
4. A user will be locked out after 5 failed attempts- Android
5. Ability to view home page once logged in for carer/ patient- Web

Iteration Three

1. Ability to view home page once logged in for carer/ patient- Mobile
2. User has the ability to deactivate their account
3. All data is deleted from their account it they choose this option
4. Data is stored in the database why they want to deactivate their account

Iteration Four

1. The ability for a carer to be able to search for a patient- Web
2. The ability for a carer to be able to search for a patient- Android
3. The ability for a patient to be able to search for a carer- Web
4. The ability for a patient to be able to search for a carer- Android
5. The ability for a patient and carer to 'connect'- Android
6. The ability for a patient and carer to 'connect'- Web
7. A secure authentication on the POST requests
8. Creating a user profile for both android and web

Iteration Five

1. The ability for a carer to be able to enter in medication details for a patient- Web
2. The ability for a carer to be able to enter in medication details for a patient- Android
3. The ability for a patient or carer to enter appointment details- Web
4. The ability for a patient or carer to enter appointment details- Android
5. Linking with the android built in calendar

Iteration Six

1. The ability for a carer to be able to edit and delete in medication details for a patient- Web
2. The ability for a carer to be able to edit and delete in medication details for a patient- Android
3. The ability for a patient or carer to edit or delete appointment details- Web

4. The ability for a patient or carer to edit or delete appointment details- Android

Iteration Seven
1. An improved more professional design
2. The features all work as expected
3. All already implemented functionality works correctly
4. Improved navigation

Iteration Eight
1. A reminder functionality to remind patients when to take medication- Web
2. A reminder functionality to remind patients when to take medication- Android
3. A reminder functionality to remind patients when appointments are- Web
4. A reminder functionality to remind patients when appointments are- android
5. Notification system- web
6. Notifications system- android

Iteration Nine
1. A system to be able to track when medication is taken- Web
2. A system to be able to track when medication is taken- Android
3. A admin portal displaying usage graphs, active users, reasons for a user to deactivate- web
4. To track the correspondence between a patient and carer- web
5. To track the correspondence between a patient and carer- android
6. A notification to a carer when their patient is running low on medication
7. A view for a carer to see the medication the patient has taken
8. A search bar to be able to search the NHS website directly- web
9. A search bar to be able to search the NHS website directly- android

Non-Functional Requirements

These are the requirements that specify how the web and mobile applications should perform and the qualities that it should adhere too.

e.g. Speed, Size, Ease of Use, Reliability, Robustness, Portability

Iteration One

1. User Documentation
2. Security (Web)
    a. Encryption of passwords and sensitive user information
    b. In-line network security
    c. Physical network security
3. Robustness
    a. Error handling
    b. Security (as above)
    c. Eliminate the possibility of SQL injection type attacks
4. Ease of Use
    a. Simple and intuitive design
    b. Clear colour scheme

Iteration Two

1. User Documentation
2. Security (Android)
    a. Encryption of passwords and sensitive user information
    b. In-line network security
    c. Physical network security
3. Robustness
    a. Error handling
    b. Security (as above)
4. Ease of Use
    a. Simple and intuitive design
    b. Clear colour scheme

Iteration Three

1. User Documentation
2. Robustness
    a. Error handling
3. Ease of Use
    a. Simple and intuitive design
    b. Clear colour scheme

Iteration Four

1. User Documentation
2. Security
    a. To ensure POST requests are secure and authenticated
    b. To ensure patients and carers connect in a secure and safe way

3. Robustness
    a. Error handling
    b. Security (as above)
4. Ease of Use
    a. Simple and intuitive design
    b. Clear colour scheme

Iteration Five

1. User Documentation
2. Security
    a. Ensuring only certain people can enter medication details
    b. A safe way for people to enter medication and unable to make human errors
    c. Secure ways of dealing with push notifications
    d. Safe connection with the android calendar
3. Robustness
    a. Error handling
    b. Security (as above)
4. Ease of Use
    a. Simple and intuitive design
    b. Clear colour scheme
    c. Clear and easy way for both patients and users to enter information

Iteration Six

1. User Documentation
2. Security
    a. Ensuring only certain people can enter medication details
    b. A safe way for people to enter medication and unable to make human errors
3. Robustness
    a. Error handling
    b. Security (as above)
4. Ease of Use
    a. Simple and intuitive design
    b. Clear colour scheme
    c. Clear and easy way for both patients and users to enter information

Iteration Seven

1. Speed
2. Performance
3. Consistency
4. Reliability
5. Robustness
6. User Documentation

Iteration Eight

1. User Documentation
2. Security

a. Ensuring only certain people can enter medication details

        b. A safe way for people to enter medication and unable to make human errors

        c. Secure ways of dealing with push notifications

        d. Safe connection with the android calendar

    3. Robustness

        a. Error handling

        b. Security (as above)

    4. Ease of Use

        a. Simple and intuitive design

        b. Clear colour scheme

        c. Clear and easy way for both patients and users to view notifications

Iteration Nine

    1. User Documentation

    2. Security

        a. Ensuring only certain people can enter medication details

        b. Secure ways of dealing with push notifications

        c. Safe connection with the android calendar

        d. Safely searches the NHS website

        e. Admin portal can not be accessed by anyone without a admin login

    3. Robustness

        a. Error handling

        b. Security (as above)

    4. Ease of Use

        a. Simple and intuitive design

        b. Clear colour scheme

        c. Clear and easy way for both patients and users to view notifications

Domain Requirements

These requirements reflect the constraints of the environment that the application will be developed in.

e.g. legal, php, html, java, hardware limitations

Iteration One

    1. Security (web)

        a. Legal requirements will mean that the sensitive information e.g. password will need to be encrypted.

        b. Terms and conditions accepting on registration

        c. Tick box to acknowledge that data provided is accurate and that it is the responsibility of the user to keep this information up-to-date and is not the responsibility of JustHealth (registration)

Iteration Two

    1. Security (Android)

a. Legal requirements will mean that the sensitive information e.g. password will need to be encrypted.

b. Terms and conditions accepting on registration

c. Tick box to acknowledge that data provided is accurate and that it is the responsibility of the user to keep this information up-to-date and is not the responsibility of JustHealth (registration)

Iteration Three

1. Security (Android and web)
    a. Tick box to acknowledge, when they deactivate their account, that their data will be stored on our account if they choose, so they can reactivate their account.
2. Total deletion of all user details from database
3. Modifications to the database to be added to the audit table

Iteration Four

1. Security (Android and Web)
    a. Make sure all POST requests are secure
    b. Ensure patients and carers connect in a safe and secure way. Authentication to ensure a person is who there profile says they are.

Iteration Five

1. Security (Android)
    a. Ensuring a user understands the connection with their phone calendar
    b. The app can only link with the google calendar rather then third party ones
2. Push notifications in Android linking with the google cloud
3. Legal-
    a. Only correct medication can be entered, ensures validations on fields to prevent human error.
    b. Confirmation screen when medication has been entered

Iteration Six

1. Security (Android)
    a. Ensuring a user understands the connection with their phone calendar
    b. The app can only link with the google calendar rather than third party ones
2. Push notifications in Android linking with the google cloud
3. Legal
    a. Only correct medication can be entered, ensures validations on fields to prevent human error.
    b. Confirmation screen when medication has been entered

Iteration Seven

1. Compatible with colour blindness

Iteration Eight

1. Security (Android)
    c. Ensuring a user understands the connection with their phone calendar

4. Push notifications in Android linking with the google cloud
5. Legal- a user a where and accepts the fact push notifications will be optional on the android application.

Iteration Nine

1. Security (Android)
   a. Ensuring a user understands the connection with their phone calendar
2. Push notifications in Android linking with the google cloud
3. Legal- a user a where and accepts the fact push notifications will be optional on the android application.

User Requirements

MoSCoW Definitions

MUST
Requirements that are put into the MUST section of the table are requirements that are necessary to fulfil in order to be able to label the project a success. If even one of the MUST requirements are not satisfied the then project would have been a failure.

SHOULD
Requirements that are put into the SHOULD section of the table are requirements that are important to the success of the project although, if they are not fulfilled the project is not necessarily a failure. For the purpose of this project, requirements that are placed in the 'should' category are as important as those in the 'must' although, if they are not met we may be able to implement another feature or functionality that would satisfy the requirement in a different way.

COULD
Requirements that are put into the COULD section of the table are those requirements that are not necessary to the success of the project although, will be included if time permits us to.

WON'T
These are requirements that we have identified but feel that they are either not important and would not add value to the final product or it may be, that they are requirement that would not realistically be able to be implemented; this may be due to time, cost or resource constraints.

Patient Requirements

MUST	SHOULD

1. Login Screen
2. User Interface
3. Personal Profile
4. Ability to update personal profile at any time after account creation
5. Ability to view medication incl. frequency, dose, name
6. Access Control (Security, Privacy etc)
7. Accessibility Features (per WCAG 2.0)
    a. Larger Fonts
    b. Bold Fonts
    c. Change colour scheme
8. Ability to de-activate the account
	1. Reminder to take medication
	2. Ability to record appointments with the hospital/GP etc.
	3. Easily contact assigned carer
	4. Interfacing with NHS Direct website

COULD	WON'T
1. Reminder when running low on medication 2. Alert Pharmacy if they are low on medication (by email) 3. Give directions to the doctors or hospital when they are due to go to an appointment 4. Live chat – patient is able call or instant message the carer 5. API to support accessories a. Enable patient to take their own heartrate/blood pressure 6. Wheelchair request/Wheelchair accessibility alerting (Integrate with TFL) 7. Links from emails to put appointments directly into the app 8. Facility to allow carers to notify patients easily if they are running late 9. Text to speech functionality	1. Call 999 if help is needed 2. Support smart watches

Carer Requirements

MUST	SHOULD
1. Login Screen 2. Easy to use interface 3. Profile – so that patients are able to see some information about the carer, this may be reassuring. 4. Ability to update personal profile 5. Ability to add medication to patients profile incl. frequency, dose, name, criticality (determine the alert to the carer) 6. Access Control (Security, Privacy etc)	1. Record and track medication that has/has not been taken by patient 2. Remind patients to take medication 3. Alert carer to abnormalities i.e. if medication hasn't been taken 4. Add appointments to the patients calendar 5. Emergency Alarm to carer, this feature may to be turned off 6. Database of drug names
COULD	**WON'T**

1. Remind carer if they are running low on medication
2. Alert Pharmacy if they are low on medication (by email)
3. Track the movements of patients using google maps
4. Live chat – patient is able call or instant message the carer
5. Heart Rate monitor
    a. Ability to record and track this over time
    b. Ability to alert carer of abnormalities
6. Blood Pressure monitor
    a. Ability to record and track this over time
    b. Ability to alert carer of abnormalities
7. API to support accessories
8. Links from emails to put appointments directly into the app (both patient and carer)
9. Facility to allow carers to notify patients easily if they are running late
10. Primary/Secondary Carers to account for holidays etc.
11. Interface for relatives to be able to track patient medication/appointments etc.
	1. Call 999 if no response from carer/patient after emergency alarm is activated.
	2. Support smart watches

Patient's Relatives Requirements

MUST	SHOULD
	1. Login Screen
	2. Easy to use interface
	3. Profile – so that patients are able to see Access to the patient and carers profile – relatives may find this reassuring
	4. Ability to update personal profile
	5. Access Control (Security, Privacy etc)
	6.
COULD	**WON'T**
1. Track the movements of patients using google maps	1. Support smart watches
2. Live chat – patient is able call or instant message their relative	
3. Interface for relatives to be able to track patient medication/appointments etc.	
4. Alert relative if there is a problem – the carer or patient could do this.	

Doctor/Pharmacist Requirements

MUST	SHOULD
	1. Login Screen 2. Easy to use interface 3. Profile – so that patient's relatives are able to see Access to the patient and carers profile – relatives may find this reassuring 4. Ability to update personal profile 5. Access Control (Security, Privacy etc)
COULD 1. Live chat – patient is able call or instant message their relative 2. Alert Doctors of high profile problems 3. Alert Doctors/Pharmacists of when a patient will need a repeat prescription	**WON'T**

Admin Requirements

MUST	SHOULD

COULD
1. Admin interface to enable the admin team to follow statistics such as:
   i. Active users
   ii. Deactivate reasons
   iii. Users usage
2. Admin interface to be able to complete various tasks
   i. Add medication
   ii. Deactivate a users account
   iii. Add and remove reasons to deactivate
   iv. Verify users manually
	WON'T

Common requirements for all users

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MUST
1. Login Screen
2. Carer Interface
3. Patient Interface
4. Personal Profile
5. Ability to update personal profile at any time after account creation
6. Ability to add medication incl. frequency, dose, name, criticality (determine the alert to the carer)
7. Access Control (Security, Privacy etc)
8. Accessibility Features (per WCAG 2.0)
   a. Larger Fonts
   b. Bold Fonts
   c. Change colour scheme
9. Ability to de-activate the user account

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SHOULD
1. Record and track medication that has/has not been taken
2. Reminder to take medication
3. Alert carer to abnormalities i.e. if medication hasn't been taken
4. Ability to record appointments with the hospital/GP etc.
5. Emergency Alarm to carer, this feature may to be turned off
6. Interfacing with NHS Direct website
7. Database of drug names

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COULD
1. Remind carer if they are running low on medication
2. Alert Pharmacy if they are low on medication (by email)
3. Track the movements of patients using google maps
4. Give directions to the doctors or hospital when the patient has an appointment
5. Live chat – patient is able call or instant message the carer
6. Heart Rate monitor
   a. Ability to record and track this over time
   b. Ability to alert carer of abnormalities
7. Blood Pressure monitor
   a. Ability to record and track this over time
   b. Ability to alert carer of abnormalities
8. API to support accessories
9. Wheelchair request/Wheelchair accessibility alerting (Integrate with TFL)
10. Links from emails to put appointments directly into the app
11. Facility to allow carers to notify patients easily if they are running late
12. Primary/Secondary Carers to account for holidays etc.
13. Text to speech functionality
14. Interface for relatives to be able to track patient medication/appointments etc.
15. Admin interface to enable the admin team to

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WON'T
1. Call 999 if no response from carer/patient after emergency alarm is activated.
2. Support smart watches

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follow statistics such as:

i. Active users
ii. Deactivate reasons
iii. Users usage

16. Admin interface to be able to complete various tasks

i. Add medication
ii. Deactivate a users account
iii. Add and remove reasons to deactivate
iv. Verify users manually