BCCH Requirements

Team Info

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Document Information

Revision History

Date	Version	Status	Prepared by	Comments
Jan 29th, 2020	0.01	Initial outline/notes.	Nick Birtch	Basic format laid out.
Jan 30th, 2020	0.02	Adding NFR	Kai Ti Mok Rong	Basic summary of document
Jan 30th, 2020	0.5	RTM, Impacts Added	Jiayao Chen, Lang Cheng, Alexander Svatukhin, Julie Zhu	N/A
Jan 30th, 2020	0.8	Use Cases draft, Project Scope Draft	Lang Cheng, Alexander Svatukhin, Jiawei Tan	N/A
Jan 30th, 2020	0.85	Project Scope Draft	Jiawei Tan	N/A
Jan 31st, 2020	0.9	Edits, Finalize Use Cases	Nick Birtch	Expanded use cases, included business diagrams.
Jan 31st, 2020	1.0	Clear formats. Final draft done.	Jiayao Chen, Lang Cheng	Added constraint, assumptions & dependencies.
Feb. 23rd, 2020	1.1	Feedback Revision	Nick Birtch, Kaiti Mok Rong	Add Signoff List, Rewrite Impacts/Business Constraints, minor content updates

Document Control

Role	Name	E-mail	Telephone
Project Manager	Jiayao Chen	raymondyao1997@gmail.com	778-858-2077

Note: We will be including our mockups in the upcoming design document deliverable.

Signoff List

Deliverable Name: _____

Delivered On Date: _____

Client Name: _____

Approving Client Representative: _____

Project Team: _____

Project Manager: _____

DELIVERABLE APPROVAL

Signing off on this document signifies that the approving client representative is satisfied with the completed deliverable listed above. The client acknowledges satisfaction and completion with all elements of the deliverable.

Client Signature: _____

Date: _____

Project Manager Signature: _____

Date: _____

DELIVERABLE NOT APPROVED

If you are not ready to approve this deliverable, please provide feedback and attach any relevant information to assist the project team in making the changes needed.

Client Signature: _____

Date: _____

Project Manager Signature: _____

Date: _____

Project Description

The H-Behaviors Lab in BC Children's Hospital would like to develop a new way to collect patients' assessments by a combination of new video technologies as well as the Internet. This enables patients' observations in a home setting and greatly reduces the difficulties of disorder diagnosis and continuous monitoring of treatment regiments.

Business Requirement Summary

The Requirements document describes the business constraints and discusses the system and individual impacts of the product implementation.

Requirements (RTM) will provide a guideline to the developers and give an idea of the expected features and priorities to non-technical stakeholders.

Use Cases will serve as a high-level model of the general workflow for the software architecture to be developed. Visualizing the relationships between pages and user flows will help stakeholders have a better mental model of the project and facilitate discussion and clarification of ambiguity early in the design process.

Business Constraints, Assumptions & Dependencies

Constraints:
- This web based project will be mobile friendly with a possible extension to native mobile support. No guarantee to support native iOS or Android applications.
- Patient outreach requires supporting a commonly used media data format and browser for mobile devices.
    - Videos will be using MPEG-4 covert (mp4 format) and photos will be using JPEG format.
    - We will support Chrome and Safari.

Assumptions:
- User authentication is handled by BCCH security.
- No guarantee for encryption of patients' media data (videos, pictures).

Dependencies:
- User login functionality depends directly on BCCH authentication.
- Online cloud servers will be provided by BCCH to store patients' data.

Project Scope

This project aims to build an easy-to-use web application for patients to report their health condition as well as for doctors (admin) to keep track of patients (user). The web application

will include a login page, a dashboard page and an upload page. Login page will only include the basic logic for patients and doctors to log in, and authentication logic will be handled by BCCH. As for the dashboard, it will allow patients to see their own data and it will allow doctors to access, manage and export all patients' information and reports by querying (such as filtering and grouping). Last but not least, the upload page will allow patients to upload assessments (selfies, videos, surveys) while supporting the additional admin functionality of customizing assessment templates.

Impacts

System Impact:
- The system will facilitate remote patient monitoring and recovery from the comfort of one's own home.
- The system will integrate with and have performance ramifications on the BCCH provided database and authentication.

Individual Impact:
- The researchers will be able to access and query data provided by patients in order to assess their health remotely.
- The patients will be able to upload data as required through assessments from their personal mobile devices or computers.

Non-Functional Requirements

Backup Needs:
- Securely backup research data (patient's surveys, profile, videos, and pictures) onto a secure database

Security Needs:
- Ensure that the patients' data, surveys, videos, and pictures are stored in a secure database.
- Verify username and password during each login session.

Capacity Needs:
- Videos in MP4 format which has a length of up to 10 minutes and size up to 100MB.
- Store up to 10,000 patient records of an average of 20 activity records per patient

Cost Parameters and Constraints:
- Populate data search in less than 10 seconds using wifi
- Cost to be determined (for data storage)

Ethical Constraints:

- Ensure that the mock data provided is securely stored and not shared with any personnel who is not involved in the development of this project.
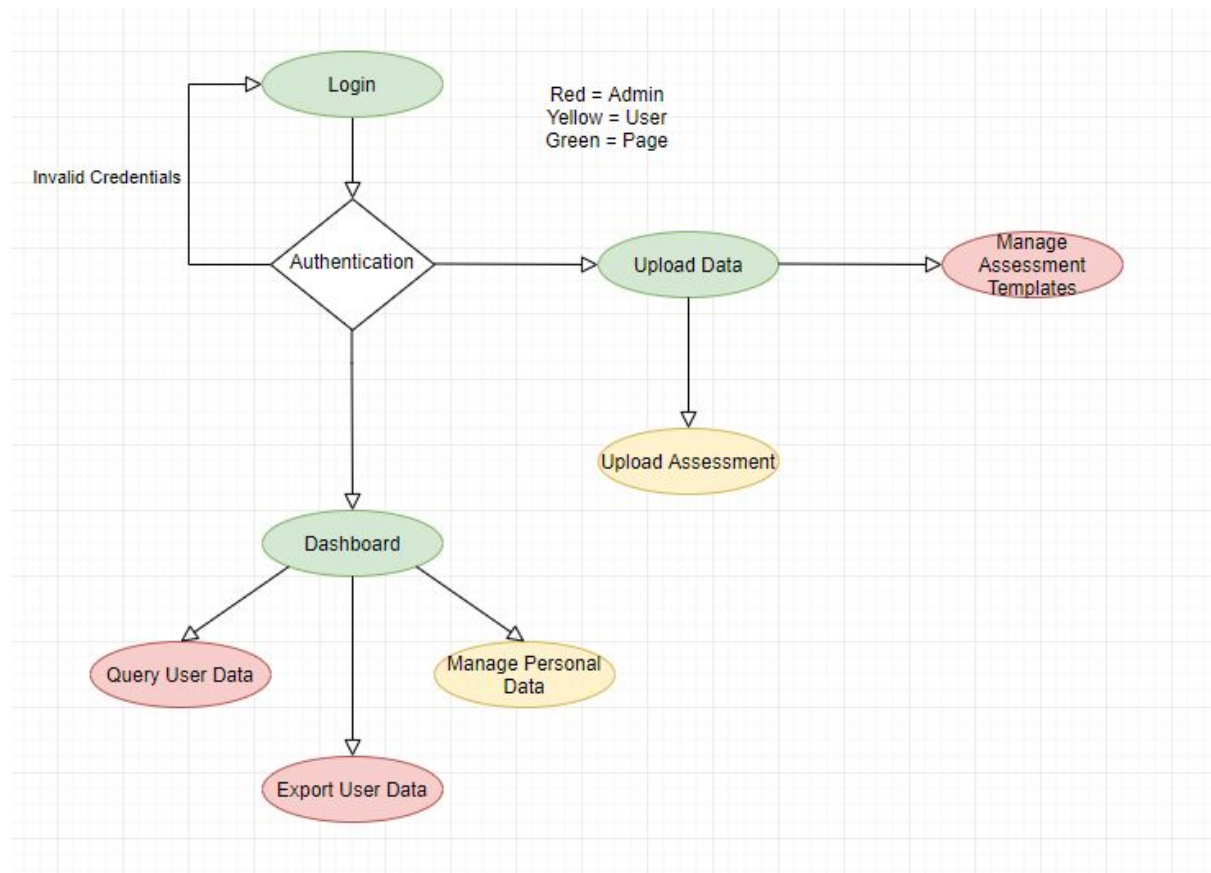
Requirement Traceability Matrix

REQ No.	Requirement description	Type*	Priority*	MVP*
1.0.0	Login functionality and authentication	F	1	Yes
1.1.0	Definition of 3 types of data (video, pictures & assessments)	F	1	Yes
1.1.1	Access patient data tied to login	F	1	Yes
1.1.2	Store up to 10,000 patient records of an average of 20 activity records per patient	N	2	Yes
1.2.0	Login page, User dashboard, Upload pages	F	1	Yes
1.3.0	Support various file types upload, tag patient, date and timestamp	F	1	Yes
1.3.1	Support videos with length of up to 10 minutes and size up to 100MB	N	2	Yes
2.0.0	Admin dashboard for querying data	F	2	Yes
2.1.0	Ability to preview/export the query result	F	2	Yes
2.2.0	Allow admin to create customized assessments for patient use	F	2	Yes
2.3.0	Allow admin to create pre-defined sessions	F	3	Yes
2.4.0	Allow users to delete uploaded data	F	4	No
3.0.0	Integrate with scientists' database	F	4	No
4.0.0	Native mobile support	F	3	No
5.0.0	Supporting documentation and tutorials provided in application.	N	4	No

*Type: whether a requirement is functional (F) or non-functional (N)
*Priority: the priority of a requirement (1 as the highest, 5 as the lowest)
*MVP: whether a requirement is included in the minimum viable product(Yes/No)

Use Cases

Login

Red = Admin
Yellow = User
Green = Page

Invalid Credentials

Authentication

Upload Data

Manage Assessment Templates

Upload Assessment

Dashboard

Query User Data

Manage Personal Data

Export User Data

Query User Data

Description	Admins should be able to find and filter user data easily in a communicable format.
Actor	Admin
Preconditions	Logged in and authenticated as admin, navigate to Dashboard.
Goal	A list of relevant user data records.
Scenario	- Admin requires some subset of user data. - Data records viewable in the application. - Filterable on patient information, assessment type, timestamp, tags. - Additional query complexity: group, sort, etc.
Extensions	Optimize query performance, additional query complexity, visual

	improvements.

Export User Data

Description	Admins should be able to export user data via query.
Actor	Admin
Preconditions	Logged in and authenticated as admin, navigate to Dashboard.
Goal	A data file containing relevant user data in a widely used, easy to read format.
Scenario	- Admin requires some subset of user data. - Query data. - Export and download data in a timely, performative manner.
Extensions	Optimize compression, support multiple formats, browser support.

Manage Personal Data

Description	Users should be able to view their personal information and data in the application.
Actor	User
Preconditions	Logged in and authenticated as user, navigate to Dashboard.
Goal	A list of relevant user data records, any additional user information displayed.
Scenario	- Users only have access to their own personal information. - User records filterable on patient information, assessment type, timestamp, tags.
Extensions	Allow users to delete uploaded data, history view or additional interesting visual/data presentations.

Upload Assessment

Description	Users should be able to upload assessments to the database quickly and intuitively.
Actor	User
Preconditions	Logged in and authenticated as user, navigate to Upload Data.
Goal	Facilitate user assessments and store records in database.
Scenario	- User is required to complete certain assessments.

	- Select assessment type and fill out information as needed. - Support various file type uploads. - Tag patient information, date and timestamp
Extensions	Supporting documentation and tutorials provided in application.

Manage Assessment Templates

Description	Admins should be able to configure and manage assessments for users to complete in the application.
Actor	Admin
Preconditions	Logged in and authenticated as admin, navigate to Upload Data.
Goal	A selection of templates that users can choose when using the Upload Data feature.
Scenario	- Admin requires new assessments and data from users. - Create, update, or delete assessment templates. - Configure individual sections of assessments for questions, file upload, etc.
Extensions	Supporting documentation and tutorials provided in application.