Operational Concept Description (OCD)

Harexi eWellness Health Application

Team 09

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# Version History

<table>
<thead>
<tr>
<th>Date</th>
<th>Author</th>
<th>Version</th>
<th>Changes Made</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/17/2020</td>
<td>FS</td>
<td>1.1</td>
<td>● Revised section 3.2.1&lt;br&gt;● Updated element relationship diagram&lt;br&gt;● Updated information on current system</td>
<td>● Populated section 3.2.1 with the comprehensive list of core capabilities.&lt;br&gt;● The new element relationship diagram represents the functionality of the entire system.&lt;br&gt;● The current system information was updated to better explain the project.</td>
</tr>
<tr>
<td>10/17/2020</td>
<td>KC</td>
<td>1.2</td>
<td>● Updated benefit chain diagram</td>
<td>● Revised benefit chain diagram now accurately depicts users as stakeholders and their role</td>
</tr>
<tr>
<td>10/19/2020</td>
<td>KC</td>
<td>1.3</td>
<td>● Updated business workflow</td>
<td>● Original version was outdated due to change in workflow of application</td>
</tr>
<tr>
<td>11/13/2020</td>
<td>KC</td>
<td>1.4</td>
<td>● Made changes to program model and benefit chain diagram based on TA feedback&lt;br&gt;● Re-added current business workflow</td>
<td>● Discrepancies between program model and benefit chain diagram&lt;br&gt;● Current business workflow was missing</td>
</tr>
<tr>
<td>11/20/2020</td>
<td>AG</td>
<td>1.5</td>
<td>● Updated Core Capabilities table</td>
<td>● Needed to reflect features added and removed</td>
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</tbody>
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1. Introduction

1.1. Purpose of the OCD

This document details the vision and the goals of the stakeholders of the eWellness Health Application for Harexi. The success-critical stakeholders are the following:

   a) Harexi Health and Dr. Jasmine Berry, as the project owner, client, and maintainer

   b) CSCI-577a Team 09 as the developers

   c) Diabetic patients (all types of diabetes) of all genders and ages, as the users.

1.2. Status of the OCD

The status of the OCD is currently at the Transition Readiness Package Version 1.5. The previous version was the first draft of this document with incorporated feedback from the Architecture Review Board Meeting. This version incorporates feedback gathered from the TAs in regard to the DC Package that was submitted. There are no anticipated future changes, and this version is the final version.
2. Shared Vision

2.1. Program Model

Table 1: Program Model

<table>
<thead>
<tr>
<th>Assumptions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Growing user base</td>
</tr>
<tr>
<td>● Working database of food and nutritional information</td>
</tr>
<tr>
<td>● Increase in app features to reach client’s future vision</td>
</tr>
<tr>
<td>● Users have access to smartphone</td>
</tr>
<tr>
<td>● Users have internet access</td>
</tr>
<tr>
<td>● Regular use of the application on the part of the end-user</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stakeholders (Who is accountable for the initiatives)</th>
<th>Initiatives (What to do to realize benefits)</th>
<th>Value Propositions (Benefits)</th>
<th>Beneficiaries (Who derives value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Users (diabetic patients)</td>
<td>● Developers develop base of application</td>
<td>● Groundwork laid for refining</td>
<td>● Users</td>
</tr>
<tr>
<td>● Developers</td>
<td>features (sign-up, rate/review features and</td>
<td>application features</td>
<td>● Client</td>
</tr>
<tr>
<td>● Client (Harexi)</td>
<td>browse food products)</td>
<td>● Users can rate/review food</td>
<td>(if well-implemented and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>products</td>
<td>straight-forward to maintain)</td>
</tr>
<tr>
<td></td>
<td>● Client provides Firebase and food</td>
<td>● Users can not only see</td>
<td></td>
</tr>
<tr>
<td></td>
<td>database access</td>
<td>reviews but also tap the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Developers implement Firebase and food</td>
<td>products to see the nutritional</td>
<td></td>
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<tr>
<td></td>
<td>database to enable login security; update</td>
<td>information to get a full</td>
<td></td>
</tr>
<tr>
<td></td>
<td>app so users can rate real food products and</td>
<td>understanding of the product</td>
<td></td>
</tr>
<tr>
<td></td>
<td>see the nutritional information</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>● User browses products and rates/reviews</td>
<td>● Users have improved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>them</td>
<td>exposure to and knowledge</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Client maintains the application</td>
<td>about diabetic friendly food</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>products</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>● Users are able to take this</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>knowledge and overall have</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>better blood sugar control</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>(to create the holistic</td>
<td></td>
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<td></td>
<td></td>
<td>vision of health Harexi has)</td>
<td></td>
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<td></td>
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</table>
2.2. Benefit Chain

The Benefit Chain diagram for the system is below. The diagram only covers the benefit chain for the development of this semester (as the development this semester will aid in further development of the application in the future, those future development initiatives will lead to more benefits down the line).

![Benefit Chain Diagram](image)

**Figure 1: Benefit Chain Diagram**

2.3. System Capability Description

The system is described as follows:

1. Harexi Health will be an application built for Android, that is intended to be used by people with diabetes, regardless of age, gender, or type of diabetes who want to explore more diabetic friendly food options.

2. Users can browse food products and look at their nutritional information. However users will also be able to read reviews of these food products written by other users to determine whether or not the food should be incorporated into their diet.

3. The users will also be able to contribute their own reviews to food products, building a community of shared information among diabetics,
empowering them to make the best choices possible for their diet and health.

4. No competitor known to Harexi as of now.

2.4. **System Boundary and Environment**

The System Boundary and Environment Diagram is below:

![System Boundary and Environment Diagram]

**Figure 2: System Boundary and Environment Diagram**

3. **System Transformation**

3.1. **Information on Current System**

3.1.1. **Infrastructure**

Currently, there is no pre-existing mobile application. The only system Harexi has in place is a website hosted by Wix, where they share blog posts and podcasts related to diabetes and health. The only hardware is a computer, and the software is handled by Wix as it is a platform intended to allow anyone to design and build a website. This mobile application being developed is the first initiative and attempt to build the new system.
3.1.2. **Artifacts**

The only artifacts in the current system are the individual blog posts and podcasts that are posted on the website.

3.1.3. **Current Business Workflow**

![Current Business Workflow Diagram]

**Figure 3: Current Business Workflow Diagram**

3.2. **System Objectives, Constraints, and Priorities**

3.2.1. **Capability Goals**

**Table 2: Capability Goals**

<table>
<thead>
<tr>
<th>Capability Goals</th>
<th>Priority Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OC-1 Sign up and Login/Logout</strong>: The system is capable of allowing users to sign up for a new account and login/logout using the same credentials, as well as allowing users to reset their password if forgotten.</td>
<td>Must Have</td>
</tr>
<tr>
<td><strong>OC-2 Choose New Products</strong>: The system will allow users to browse through food products and respond whether they have tried a food product or not.</td>
<td>Must Have</td>
</tr>
</tbody>
</table>
**OC-3 Rate/Review Food Products**: The system is capable of providing a tool for users to rate/review a food item. **Must Have**

**OC-4 Home/News Feed**: The system is capable of displaying recent activity of other users (i.e., food products they have recently reviewed) in a news feed format. **Must Have**

**OC-5 Search for a Food Product**: The system will allow users to search for a particular food product. **Nice to Have**

**OC-6 Build Profile**: The system should be capable of allowing users to create a profile with their profile picture, and general information like age, gender and diabetes specific information. **Nice to Have**

**OC-7 Detailed Information of a Food Product**: The system is capable of displaying the detailed information such as nutritional information, recent reviews, e-commerce links of the food product on a card. **Nice to Have**

**OC-8 Bookmarks**: The system will allow users to see all their bookmarked products. **Nice to Have**

**OC-9 Your Reviews**: The system will allow users to see all reviews posted by them. **Nice to Have**

**OC-10 Third Party Login**: The system is capable of allowing users to login using third party sites (Facebook and Google) **Low Priority**

### 3.2.2. Level of Service Goals

**Table 3: LOS Goals**

<table>
<thead>
<tr>
<th>Level of Service Goals</th>
<th>Priority Level</th>
<th>Referred Win-Win Agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>UI design of the application</td>
<td>High</td>
<td>None</td>
</tr>
</tbody>
</table>
should be ideal for users of all ages (age >= 14)

| UI response time should be <=1 second with 0.2 sec being the desired response time | High | None |
| Search Latency should be very low when the users search for items based on keywords, tags or names (<= 0.2 sec) | Medium | None |

3.2.3. **Organizational Goals**

**OG-1:** Increase interaction between users and Harexi through application downloads and user feedback.

**OG-2:** To empower users to take charge of their diet and health by becoming more involved/conscious of the diabetic friendly food products they can incorporate into their life.

**OG-3:** To build an online community amongst users of the application where information and knowledge regarding diabetic friendly food products is shared in order to better everyone’s health.

**OG-4:** Increase awareness of ways of tackling the chronic condition.

**OG-5:** Be a go-to Mobile Application for diabetic patients to improve their health.

3.2.4. **Constraints**

**CO-1:** The new system will operate as an Android application.

**CO-2:** Monetary cost associated with NDI’s should be as low as possible.

3.2.5. **Relation to Current System**

There is no relation between the current system, and the proposed new system as they do two completely different things.
3.3. Proposed New Operational Concept

3.3.1. Element Relationship

Figure 4: Element Relationship Diagram
### 3.3.2. Business Workflow

![Business Workflow Diagram](image)

**Figure 5: Business Workflow Diagram**
3.4. Organizational and Operational Implications

3.4.1. Organizational Transformations

3.4.1.1. Maintenance Commitment
A major impact of the new system will be an increase in commitment on the part of the client. Once the development team finishes the application and turns it over, the client, as the maintainers, will be responsible for the upkeep of the application. Any services or packages that require paid access, such as Firebase, will be paid for by the client.

3.4.1.2. Future of the Application
The client as the maintainer will also be responsible for any updates and future versions of the application. The development team is responsible for creating the base of the mobile application. However, the integration of machine learning or additional features beyond the core capabilities discussed earlier in this document will be the responsibility of the client and whichever future development teams they choose to work with, to implement.

3.4.2. Operational Transformations

3.4.2.1. Maintenance Process
The process for maintenance will need to increase in scope and capability. The mobile application which will need to periodically be updated for any bug fixes or to release new features, so how maintenance is handled needs to be evaluated.

3.4.2.2. Security
There will now need to be a security element to the operation of the application, as the user profiles will contain information about the client.