Operational Concept Description (OCD)

1 Student at a Time

Team 7

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11/24/2020
# 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>10/23/20</td>
<td>DKL</td>
<td>1.0</td>
<td>● This document is the first version of the OCD document.</td>
<td>● Document to provide information on the proposed new system, system capabilities, comparing to old system, benefits of the new system, how new system impacts the organization</td>
</tr>
<tr>
<td>11/24/20</td>
<td>DKL</td>
<td>2.0</td>
<td>● Update the benefit chain diagram, system boundary, OC list</td>
<td>● Update was necessary as we are transitioning the system to our client</td>
</tr>
</tbody>
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3 4 5 6 9 10
1. Introduction

1.1 Purpose of the OCD

This document provides, in detail, the shared visions and goals of the stakeholders of the 1 Student at a Time (1ST) organization. The success-critical stakeholders of the project are Destiny Batton as the client, students in the Los Angeles college community, as the users of the project, and the students of USC CSCI577a Team 07, as the development team.

1.2 Status of the OCD

This is the second version of the OCD document. It represents the final version of the new website and the features that have been developed during the course of the semester. Features were developed by talking to our client Desity Batton.
## 2. Shared Vision

**Table 1: The Program Model**

**Assumptions:** There are students in the LA college community that need help. The current website doesn’t satisfy the users' need to get help.

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>Representative and Organization</th>
<th>Initiatives</th>
<th>Value Propositions</th>
<th>Beneficiaries</th>
</tr>
</thead>
</table>
| Client                 | Destiny Batton, 1 Student at a Time | - Update website using new feature  
- Reply to users in comment section | - Help as much users as possible with resources  
- Have system that is useful to users  
- Better communication with users | Users, 1 Student at a Time |
| Users                  | N/A, N/A                         | - Comment about a resource to get more information  
- Search for a resource | - Need resources in housing, food, mental health, or education  
- Need more information from 1ST organization | Users |
| Development Team, IIV&V | Team 07, USC                      | - Develop and design the new website  
- Validate all conditions are met and assure quality | - Satisfy the client, users | Client, Users |

**Note:** Users representative and organization is N/A because there is no particular user. It is anyone who is in the Los Angeles college community.
2.1 Benefits Chain

![Benefits Chain Diagram of new website for 1ST]

2.2 System Capability Description

The new 1 Student at a Time (1ST) system is a website where users can find information about resources available in housing, food, mental health, and higher education. Currently the intended users are college students in the Los Angeles college community who have been impacted by the COVID-19 pandemic or in need of assistance. Users will have features such as creating a login, commenting on resources pages, searching the website, donating to the 1ST organization. There will be additional sets of features available to the admin of the website, who will be a member or members of the 1ST organization. These features are edit the comment sections of the resources page, changing content of the website, and uploading YouTube videos.

Because of the current pandemic all Los Angeles college campuses are closed for academia. That means students do not have the on campus resources such as on campus jobs, tutors, to support themselves to thrive in higher education. Because 1ST is a non-profit organization, there will be no worry for the users about cost. The organization is to help provide resources that can positively impact the users though this pandemic. Users will use this new system because it provides multiple resources directly for their demographic which is college students in Los Angeles. Also the system doesn’t focus on one particular area students may need.
help in. It focuses on four main essential areas to thrive in higher education, which makes users inclined to use the system more.

Because the 1ST is a non-profit organization, there are no direct competitors for the market. There are many other non-profit organizations in the Los Angeles community that are hoping to guide people in need but 1ST is focused on college students. Some of the other nonprofit organizations include Southern California Association of Non Profit Housing, National Runaway Safeline, etc. 1ST goal is to bring these resources all together in one website.

2.3 System Boundary and Environment

![System Boundary and Environment Diagram of 1ST new website]

Figure 2: System Boundary and Environment Diagram of 1ST new website
3. System Transformation

3.1 Information on Current System

3.1.1 Infrastructure

In the beginning of the project 1ST does have a website but it is not fully functional, that is one of the reasons why we are building 1ST a new website from the ground up. It was built using the free version of Wix (https://1stlainitiative.wixsite.com/1stla).

The 1ST is now fully transitioned to the new website. https://onestudentatatime.web.app/
The new website was developed using artifacts such as Firebase, REACT, and Express. Users may use their own hardware such as laptop or smartphone to access the website using a web browser. A stable internet connection is needed to access the current website.

3.1.2 Artifacts

- **Web Browser (Google Chrome, Safari, Firefox, Internet Explorer):** Users and admin use a web browser to access the website.
- **Firebase:** Back end system that is used to maintain the contents of the website.
- **REACT JS:** Front end framework that was used to develop the website.
- **Express JS:** Back end framework that was used to connect the backend to Firebase.

3.1.3 Current Business Workflow

![Business Workflow Diagram]

Figure 3: Current Business workflow Admin
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:</strong> User are able to sign up providing a valid email, password, and user name.</td>
<td>10 / 10</td>
</tr>
<tr>
<td><strong>OC-2 Log In, Out:</strong> Users were able to log in and out using their log in credentials. Log in is only allowed once valid credentials are provided.</td>
<td>10 / 10</td>
</tr>
<tr>
<td><strong>OC-3 User Donations:</strong> Users may donate to the 1ST organization through the donations page.</td>
<td>10 / 10</td>
</tr>
<tr>
<td><strong>OC-4 Admin Edit Website Content:</strong> Admin is able to edit contents of the website without coding. These contents include, pictures and text on the homepage, resources on the resources page, post news on the news page.</td>
<td>8 / 10</td>
</tr>
<tr>
<td><strong>OC-5 Admin Edit YouTube video post:</strong> Admin is to change the YouTube videos posted on the cooking page and get involved page.</td>
<td>9 / 10</td>
</tr>
<tr>
<td><strong>OC-6 User / Admin Commenting:</strong> After logging into their account, users are able to comment in each of the resources pages. Users may delete their own comments if wanted.</td>
<td>9 / 10</td>
</tr>
</tbody>
</table>
Admin are also able to comment in each of the resources pages. Admin are able to delete not only their own comments but everyone one’s comments.

### 3.2.2 Level of Service Goals

<table>
<thead>
<tr>
<th>Level of Service Goals</th>
<th>Priority Level</th>
<th>Referred WinWin Agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability</td>
<td>Must Have</td>
<td>WC-239, WC-206</td>
</tr>
<tr>
<td>System Response Time</td>
<td>Must Have</td>
<td>WC-242, WC-241, WC-240</td>
</tr>
<tr>
<td>Information Correctness</td>
<td>Must Have</td>
<td>WC-207, WC272, WC-271</td>
</tr>
</tbody>
</table>

**WinWin: http://greenbay.usc.edu:5201/project/41**

Availability is a must have because we want the users to have access to the website any time they need. This means having as zero down time on the new website as much as possible.

The system must have low response time meaning the user doesn’t have to wait over 60 seconds for the website to load.

Because users are using this website as a resource, it is important that all information is current and accurate.

### 3.2.3 Organizational Goals

- **OG-1:** Give users a professional website with more friendly UI/UX
- **OG-2:** Give admin the ability to easily edit website without having to code
- **OG-3:** Simplify the process of communicating with admin
- **OG-4:** Simplify the process for users searching for resources

### 3.2.4 Constraints

**CO-1: Mobile and Computer Browser Friendly:** The new website must be viewable from both mobile and computer browsers. The browsers are Safari, Google Chrome, Firefox, Internet Explorer.
## 3.2.5 Relation to Current System

### Table 4: Relation to Current System

<table>
<thead>
<tr>
<th>Capabilities</th>
<th>Old System</th>
<th>New System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roles and Responsibilities</td>
<td>- Available through the web</td>
<td>- Available through the web</td>
</tr>
<tr>
<td></td>
<td>- No Resources available</td>
<td>- Resources available</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Search for resources</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Interactions</td>
<td>- Less user friendly</td>
<td>- Friendly UI/UX</td>
</tr>
<tr>
<td></td>
<td>- No features. Only view the website.</td>
<td>- More features to interact with such as commenting, searching, viewing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>uploaded YouTube videos by admin</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>- Web based hosted on Wix</td>
<td>- Web based hosted on Firebase</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Features not restricted to ones provided by Wix</td>
</tr>
<tr>
<td>Stakeholder Essentials and Amenities</td>
<td></td>
<td>- Accessible to all users</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Assures fast communication through instantly available comments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Admin features only available to admin permission accounts</td>
</tr>
<tr>
<td>Future Capabilities</td>
<td>N/A</td>
<td>- Live chat with users</td>
</tr>
</tbody>
</table>
3.3 Proposed New Operational Concept

3.3.1 Element Relationship Diagram

Figure 5: Element Relationship Diagram of New Website
3.3.2 Business Workflows

Figure 6: Business Workflow with New Website
3.4 Organizational and Operational Implications

3.4.1 Organizational Transformations

With the new website is implemented, there will need to be at least one admin from the 1ST organization to reply back to users, update resources, and content of the website. The person does not have to know how to code because through the admin feature, there will be no need to code to edit the content of the website. The content include, pictures and text in the home page, resources in all four of the resources pages, and new page.

With the new website is implemented and 1ST wants to change the design of the website that isn’t included in the admin feature, they will need to hire a developer who knows REACT, Express JS, Firebase to change the design.

3.4.2 Operational Transformations

- No need for 3rd party applications such as email for users to communicate with admin/1ST organization. They can simply use the comment sections on the respective resource page they have a question about. Also, past questions and answers will be viewable to users, so there are no repeated questions. If the comment section isn’t what the user wants to use, they can use the ‘contact us’ page and fill out a form that is directly connected to 1ST organization email.
- 1ST does not have to use Wix to update the content of their website anymore. They can use features that the admin has on the new website to change the necessary content. https://onestudentatatime.web.app/