Lab 1 - Study Buddy Description

<<<YOUR NAME>>>  

CS 411  

Mr. Thomas Kennedy  

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Version: 1
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Table 1: Prototype Features
1. Introduction

- What is study group (Slide #4)
- Benefits of study group (slide 5-6)
- Current process flow (slide #11)

![Current Process Flow Diagram]

Figure 1: Current Process Flow
- The solution (slide #16)
- Proposed Process Flow (slide #23)

Figure 2: Proposed Process Flow

https://docs.google.com/presentation/d/1HypCL0yEUCV37VXuue_96Y3U8pNjEwTQrfxrawI3-EIxw/edit?usp=sharing

2. Study Buddy Product Description

2.1. Key Product Features and Capabilities

- Intelligent buddy matching algorithm

<table>
<thead>
<tr>
<th>Learning Style</th>
<th>User: Jamal Williams</th>
<th>User: John Crotzer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Auditory</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Kinesthetic</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Reading/ Writing</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
\[
\cos \theta = \frac{\vec{W} \cdot \vec{C}}{||\vec{W}|| ||\vec{C}||}
\]

\[
= \frac{2}{\sqrt{2} \times \sqrt{3}}
\]

\[
= \frac{2}{\sqrt{6}}
\]

\[
\approx 0.8165
\]

Figure 3: Intelligent Buddy Matching Algorithm

- Integrated API for online collaboration tools
  - Google Drive
  - Google Hangout
  - Codeshare for real time development
  - Jupyter Notebook
  - Embed slack chat directly into study buddy.
  - Allow users to create repository using Git

### 2.2. Major Components (Hardware/Software)

- MFCD (slide #17)
- Development Tools (slide 42-44)
  - Design Patterns
Lab 1 - Study Buddy Description

**MVC**
- Facade
- Data Access Object

**Development Tools**
- Java Persistence API (JPA)
- Java Server Faces (JSF)

https://docs.google.com/presentation/d/1lCbVP0D1xToeFKJ3KFcyZ0mFJMaBA-kHOM2Os65xcw0/edit?usp=sharing

### 3. Identification of Case Study

- Customers end users (slide 9)
  - High Schools/Universities
  - Integrate with myODU (ODU portal)
  - SAT/ACT Test Prep
  - MCAT/GRE/PCAT Test Prep
  - Organizations for Certification & License
    - CompTIA
    - AWS Certifications
    - The Bar Examination

- end users (slide 10)
  - Anyone
4. Study Buddy Product Prototype Description

<Top level description of the CS 411W prototype as it relates to the end product (410) – goal. Are capabilities reduced or eliminated? Simulated – modeled?> Include a table of comparison between RWP and Prototype either in section 4.>

4.1. Prototype Architecture (Hardware/Software)

- MFCD (slide #17) *figure
- Development Tools (slide 42-44)
  - Design Patterns
    - MVC
    - Facade
  - Data Access Object
  - Development Tools
    - Java Persistence API (JPA)
    - Java Server Faces (JSF)

4.2. Prototype Features and Capabilities
<table>
<thead>
<tr>
<th>Features</th>
<th>Final Product</th>
<th>Prototype</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GUI</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Login</td>
<td>Allows user entry of authentication credentials</td>
<td>Will be implemented</td>
</tr>
<tr>
<td>New User</td>
<td>Allows a user to create an account</td>
<td>Will be implemented</td>
</tr>
<tr>
<td>Study Preference Setting</td>
<td>Allows users to set study preferences for intelligent buddy matching algorithm</td>
<td>Will be implemented with limited study preference fields</td>
</tr>
<tr>
<td>Search for buddies</td>
<td>Allows user to search for study buddies</td>
<td>Will be implemented</td>
</tr>
<tr>
<td>Create a study group</td>
<td>Allows user to create a study group</td>
<td>Will be implemented</td>
</tr>
<tr>
<td>Set wait time</td>
<td>Allows user to set wait time in case of no matched buddies found</td>
<td>Will not be implemented</td>
</tr>
</tbody>
</table>

| **Features**                    |                                                                             |                                                                  |
| Web Application                 | The way in which the user will interact with the Study Buddy application using a web browser | Will be implemented                                              |
| Mobile Application             | The way in which the user will interact with the Study Buddy application using their smartphone device | Will not be implemented                                          |
| Private Message                 | Allows users to send and receive private messages within the Study Buddy App | Will not be implemented                                          |
| Block buddies                   | Allows users to block buddies with different goals                         | Will not be implemented                                          |
| Partner match by subject of interest | Matching Study Buddies by their own subject interest                      | Will be implemented                                              |
| Intelligent Buddy Matching     | Matching Study Buddies with the proprietary algorithm                      | Will be implemented                                              |
| Google Hangout Integration      | Allows users to integrate their Google Hangouts accounts for setting meeting times and web conferencing | Will be implemented                                              |
| Slack Integration               | Allows users to integrate their Slack accounts, allowing channels to be made to aid in communication between Study Buddies | Will not be implemented                                          |
| Codeshare integration           | Allows users to share their code real time with their Study Buddies         | Will not be implemented                                          |
| Schedule syncing with “Buddy”   | Allows users to make matches with Study Buddies based on the availability they input | Will not be implemented                                          |
| Rate your buddy                 | Allows users to provide feedback on their Study Buddies                     | Will not be implemented                                          |

Table 1: Prototype Features

4.3. Prototype Development Challenges

Language unfamiliarity,
Framework unfamiliarity,
Learning a new development platform.
I'll make this pretty later.
5. Glossary

**Auditory Learner** - best comprehend information by listening to information rather than reading it or seeing it visually.

**Business Logic** - The programming that manages communication between an end user interface and a database.

**CRUD** - Stands for Create, Read, Update, and Delete. Basic database/application operations.

**Entity Class** - A simple Java Class with member variables and getter and setter methods defined.

**JPA** - Java Persistence Application Programming Interface is an API for handling all database operations such as storing or retrieve entities from the database.

**JSF** - Java server faces is a java framework that couples the view and servlet into one managed component.

**Kinesthetic Learner** - best comprehend information by participating in activities or solving problems in a hands-on manner.

**ORM** - Object-relational mapping. Technique for persisting objects into a database table. Tables are modeled after Entity classes.

**Procrastination** - delaying or postponing a task, which needs to be completed, often to the detriment of the procrastinator.

**Prototype** - the prototype of Study Buddy will be a reduced scale version of the final product, and will demonstrate the functionality of the completed product in a simulated environment.

**Reading/Writing Learner** - best comprehend information by reading texts to further absorb information by condensing and rephrasing it in traditional lecture and note-taking environments.

**Study Group** - a small group of students with similar goals who meet regularly to review course material and prepare for exams.

**Visual Learner** - best comprehend information by visualizing relationships and ideas through
maps, charts, diagrams and even essays.

**Web Application -** an application that uses a website as the interface

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**6. References**


Codeshare information, Retrieved September 12, 2018, from: https://codeshare.io/


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