

Design Document

Team:

Project:

Date:

# 1 Table of Contents

1 Table of Contents 2

2 Revision History 3

3 Design Status Summary 4

4 Project Charter 5

4.1 Description of the Community Partner 5

4.2 Stakeholders 5

4.3 Project Objectives 5

4.4 Outcomes/Deliverables 5

4.5 Overall Project Timeline 5

5 Overall Project Design 6

5.1 Phase Six 6

5.2 Phase Five 7

5.3 Phase Four 8

5.4 Phase Three 9

5.5 Phase Two 10

5.6 Phase One 11

6 Semester Documentation (current semester) 12

6.1 Team Member 12

6.2 Current Status and Location on Overall Project Timeline 12

6.3 Goals for the Semester 12

6.4 Semester Timeline 12

6.5 Semester Budget 12

6.6 Transition Report 12

6.6.1 Summary of Semester Progress / Comparison of Actual Semester Timeline to Proposed Semester Timeline 12

6.6.2 Draft Timeline for (next semester) and Relationship to Overall Project Timeline 12

7 Past Semester Archive 13

7.1 Past Semester 1 13

7.1.1 Past Team Members 13

7.1.2 Past Timeline 13

7.2 Past Semester 2 13

7.2.1 Past team Members 13

7.2.2 Past Timeline 13

# 2 Revision History

|  |  |  |
| --- | --- | --- |
| **Date** | **Author** | **Revisions Made** |
|  |  |  |

# 3 Design Status Summary

|  |  |
| --- | --- |
| **Phase 6: Service / Maintenance** | **Status:** |
| ***Gate 6: Project Partner and Advisor approve continued fielding of project. If not, retire or redesign.*** | |
| Date of Advisor approval: |  |
|  |  |
| **Phase 5: Delivery** | **Status:** |
| ***Gate 5: Continue if Project Partner, Advisor and EPICS Admin agree that project is ready for delivery!*** | |
| Date of Advisor approval: |  |
|  |  |
| **Phase 4: Detailed Design** | **Status:** |
| ***Gate 4: Continue if can demonstrate feasibility of solution (is there a working prototype?). Project Partner and advisor approval required.*** | |
| Date of Advisor approval: |  |
|  |  |
| **Phase 3: Conceptual Design** | **Status:** |
| ***Gate 3: Continue if project partner and advisor agree that solution space has been appropriately explored and the best solution has been chosen.*** | |
| Date of Advisor approval: |  |
|  |  |
| **Phase 2: Specification Development** | **Status:** |
| ***Gate 2: Continue if project partner and advisor agree that you have identified the “right” need, specification document is completed and no existing commercial products meet design specifications.*** | |
| Date of Advisor approval: |  |
|  |  |
| **Phase 1: Project Identification** | **Status:** |
| ***Gate 1: Continue if have identified appropriate EPICS project that meets a compelling need for the project partner.*** | |
| Date of Advisor approval: |  |

# 4 Project Charter

## 4.1 Description of the Community Partner

This section should address such questions as:

* Who is the project partner for this project?

Our project partners are Dr. Anu Subramanian, who is the Associate Professor at the Department of Speech, Language and Hearing Sciences at Purdue; and Dr. Barbara Cicholski, who is a Speech-Language Pathologist currently serving as an SLP Clinical Supervisor at the M.D. Steer Audiology and Speech-Language Clinics.

* What is the overall mission of the project partner?

Their missions should be providing us test materials, i.e. the grading criteria, test materials.

* Who will benefit from the project?

The people who are taking this PPVT-4 test, because they can take this online, which will be more convenient.

* Who will receive the project outcomes/deliverables?

The SLHS department will receive the deliverables.

## 4.2 Stakeholders

This section should address such questions as:

* Who will be affected by your project other than your customer?

The Client's students will use our online test. Additionally, if they found the benefit of using our project, they may suggest other teachers to use this project.

* Who has vital interest in the project’s success?

SLHS department instructors.

## 4.3 Project Objectives

This section should address such questions as:

* Why are you doing the project (i.e. what is the motivation or need for the project?)

Because currently, the SLHS department's PPVT-4 test process is complicated, the test needs people for different subjects and different tests will be assigned to different people. Making it online will need less people's work.

* How does your project fit within the mission of the project partner and your team?

It fits the need of both our clients and the students who are taking PPVT-4 test. After our project is finished, our clients can spend less money to hire people to schedule times, to coordinate the test, and so on. On the other hand, the students can practice and take test at home, so their time will be more flexible as well.

## 4.4 Outcomes/Deliverables

This section should address such questions as:

* What are going to be the project results?

The result will be a complete system of online test. The website should include but may not limit to log in system, practice tests, different stops in video, and a complete scoring system.

* When the project is finished, what will be left behind by your team?

Our team will need to create an online database for storing the videos and forms, and make it accessible by the students so that they can take the test.

## 4.5 Overall Project Timeline

This section should address such questions as:

* What is the timeline for completion of the project?

It may or may not be completed in this semester, but even if it is not completed, there are not too much left to be done. It also depends on if we can get all the videos.

* What are the major milestones?

There are 5 milestones according to the previous design team. First of them is constructing the website, which the previous team has already done, but we can still improve the interface. The second one is putting the forms inside the website to be filled by students, which the previous team didn't get the forms. The third one is putting the videos inside the website and making stops. The previous team didn't get the video as well, so they put some random videos in there to test, but they didn't make stop. It is still left to be done. The fourth milestone is the student can get the feedback from created summaries, so that they can get feedback from their instructor. The fifth is expanding the scope of this project, so that the students can select from various online forms and videos. We haven't yet reached the fourth and fifth milestone yet.

* When is the project intended to be completed?

It depends on our team's progress. If not this semester, we believe the first version can definitely be done by next semester.5 Overall Project Design

## 5.1 Phase Six

|  |  |  |
| --- | --- | --- |
| **Phase 6: Service / Maintenance** | **Status:** | **Evidence can be found:** |
| * Evaluate performance of fielded project |  |  |
| * Determine what resources are necessary to support and maintain the project |  |  |
| ***Gate 6: Project Partner and Advisor approve continued fielding of project. If not, retire or redesign.*** | Decision: | Rationale summary: |
| Advisor approval: | Yes / No | Date: |

## Narrative of Service/Maintenance phase of design….5.2 Phase Five

|  |  |  |
| --- | --- | --- |
| **Phase 5: Delivery** | **Status:** | **Evidence can be found:** |
| Goal is to refine detailed design so as to produce a product that is ready to be delivered! In addition, the goal is to develop user manuals and training materials. | | |
| * Complete deliverable version of project including Bill of Materials |  |  |
| * Complete usability and reliability testing |  |  |
| * Complete user manuals/training material |  |  |
| * Complete delivery review |  |  |
| * Project Partner, Advisor, and EPICS Admin Approval |  |  |
| ***Gate 5: Continue if Project Partner, Advisor and EPICS Admin agree that project is ready for delivery!*** | Decision: | Rationale summary: |
| Advisor approval: | Yes / No | Date: |

## Narrative of Delivery phase of design….5.3 Phase Four

|  |  |  |
| --- | --- | --- |
| **Phase 4: Detailed Design** | **Status:** | **Evidence can be found:** |
| Goal is to design working prototype which meets functional specifications. | | |
| * Bottom-Up Development of component designs |  |  |
| * Develop Design Specification for components |  |  |
| * Design/analysis/evaluation of project, sub-modules and/or components (freeze interfaces) |  |  |
| * Design for Failure Mode Analysis (DFMEA) |  |  |
| * Prototyping of project, sub-modules and/or components |  |  |
| * Field test prototype/usability testing |  |  |
| ***Gate 4: Continue if can demonstrate feasibility of solution (is there a working prototype?). Project Partner and advisor approval required.*** | Decision: | Rationale summary: |
| Advisor approval: | Yes / No | Date: |

## Narrative of Detailed Design phase of design….5.4 Phase Three

|  |  |  |
| --- | --- | --- |
| **Phase 3: Conceptual Design** | **Status:** | **Evidence can be found:** |
| Goal is to expand the design space to include as many solutions as possible. Evaluate different approaches and selecting “best” one to move forward. Exploring “how”. | | |
| * Complete functional decomposition |  |  |
| * Brainstorm several possible solutions |  |  |
| * Prior Artifacts Research |  |  |
| * Create prototypes of multiple concepts, get feedback from users, refine specifications |  |  |
| * Evaluate feasibility of potential solutions (proof-of-concept prototypes) |  |  |
| * Choose "best" solution |  |  |
| ***Gate 3: Continue if project partner and advisor agree that solution space has been appropriately explored and the best solution has been chosen.*** | Decision: | Rationale summary: |
| Advisor approval: | Yes / No | Date: |

## Narrative of Conceptual Design phase of design….5.5 Phase Two

|  |  |  |
| --- | --- | --- |
| **Phase 2: Specification Development** | **Status:** | **Evidence can be found:** |
| Goal is to understand “what” is needed by understanding the context, stakeholders, requirements of the project, and why current solutions don’t meet need, and to develop measurable criteria in which design concepts can be evaluated. | | |
| * Understand and describe context (current situation and environment) |  |  |
| * Create stakeholder profiles |  |  |
| * Create mock-ups and simple prototypes: quick, low-cost, multiple cycles incorporating feedback |  |  |
| * Develop a task analysis and define how users will interact with project (user scenarios) |  |  |
| * Identify other solutions to similar needs and identify benchmark products (prior art) |  |  |
| * Define customer requirements in more detail; get project partner approval |  |  |
| * Develop specifications document |  |  |
| * Establish evaluation criteria |  |  |
| ***Gate 2: Continue if project partner and advisor agree that you have identified the “right” need, specification document is completed and no existing commercial products meet design specifications. [This includes their agreeing that you have captured and documented the critical requirements and specifications for this project]*** | Decision: | Rationale summary: |
| Advisor approval: | Yes / No | Date: |

## Narrative of Specification Development phase of design….5.6 Phase One

|  |  |  |
| --- | --- | --- |
| **Phase 1: Project Identification** | **Status:** | **Evidence can be found:** |
| Goal is to identify a specific, compelling need to be addressed | | |
| * Conduct needs assessment (if need not already defined) |  |  |
| * Identify stakeholders (customer, users, person maintaining project, etc.) |  |  |
| * Understand the Social Context |  |  |
| * Define basic stakeholder requirements (objectives or goals of projects and constraints) |  |  |
| * Determine time constraints of the project |  |  |
| ***Gate 1: Continue if have identified appropriate EPICS project that meets a compelling need for the project partner [This includes a Project Charter]*** | Decision: | Rationale summary: |
| Advisor approval: | Yes / No | Date: |

# Narrative of Project Identification phase of design….6 Semester Documentation (current semester)

## 6.1 Team Member

Insert a list and description of the team members and their specific roles and responsibilities.

## 6.2 Current Status and Location on Overall Project Timeline

Discuss what the current status of the project is and how that relates to the overall timeline developed in the project charter. Note any changes that will need to be made to the overall project timeline.

## 6.3 Goals for the Semester

Identify the specific goals for the project for the current semester, as agreed upon by the team, advisor and project partner.

## 6.4 Semester Timeline

Insert a detailed timeline for the current semester, making sure to identify important milestones, responsibilities and resources.

## 6.5 Semester Budget

Insert the expected budget for the current semester.

## 6.6 Transition Report

### 6.6.1 Summary of Semester Progress / Comparison of Actual Semester Timeline to Proposed Semester Timeline

Compare actual semester timeline to proposed semester timeline (if different). What aspects varied the most from proposed to actual?

Discuss the progress made during the current semester, including any pitfalls that you encountered that would be helpful for future teams to avoid as well as any best practices you found that helped you to advance the status of the project or work well as a team.

### 6.6.2 Draft Timeline for (next semester) and Relationship to Overall Project Timeline

Based on the work completed this semester, the work left to be completed, and the overall project timeline, create a draft timeline for the following semester.

# 7 Past Semester Archive

## 7.1 Past Semester 1

Retitle this heading to reflect the appropriate semester (e.g. Spring 2011)

### 7.1.1 Past Team Members

List team members from the appropriate semester including their roles and their contact information.

### 7.1.2 Past Timeline

Paste in previous semester timelines to indicate what was accomplished during this semester.

## 7.2 Past Semester 2

Retitle this heading to reflect the appropriate semester (e.g. Fall 2010)

### 7.2.1 Past team Members

List team members from the appropriate semester including their roles and their contact information.

### 7.2.2 Past Timeline

Paste in previous semester timelines to indicate what was accomplished during this semester.