STUDENT
RESEARCH
SYMPOSIUM

Project Plan v1.6

April 26, 2017

I. Revision Signatures

The following asserts that all team members have read the document and assert that the information contained within this document is complete and correct.

Name	Signature	Date
James Stewart		
Quang Nguyen		
Michael Giba		
Thaddeus Rix		
Son Nguyen		

II. Revision History

All revision history of this document is listed below.

Version	Changes	Date Modified
Version 1.0	● Initial draft	October 7th, 2016
Version 1.1	● Modified text ● Added to iterations ● Upgraded cover ● Removed ambiguity	October 21st, 2016
Version 1.2	● Modified text ● Expanded info on iterations ● Changed style	October 24th, 2016
Version 1.3	● Changed cover page ● Revised content	November 16th, 2016
Version 1.4	● Revised content	February 20th, 2017
Version 1.5	● Updated software specifications	April 18th, 2017
Version 1.6	● Revised content ● Fixed grammar errors	April 26th, 2017

Table of Contents

1. Introduction

1.1 Purpose

The purpose of this document is to give a detailed plan for the completion of the Michael and Sally McCracken Student Research Symposium (SRS) submission-review system and website. This document overviews the project and specifies the required resources, team members' roles and responsibilities, and management strategies that will be utilized to fulfil the project requirements. By setting up milestones and deliverables, this document also helps the team visualize the planned progress of the project, allowing better communication with clients about expectations and constraints.

1.2 Overview

Section two of this document will provide the background for the project, the scope of the project, and team objectives. The third section specifies the hardware and software resources needed and provides project contacts. Section four will highlight team members' roles, project deliverables, mechanisms for monitoring and reporting progress to our customers, set the time and place of team meetings, and provide the breakdown of risk management for this project. Section five will provide the glossary of terms.

2. Project Overview

2.1 Scope and Objectives

This project will be designed as a web application. The web application will handle user registration, submissions, department chairs' selection of winners, archiving information from previous years' SRS events, and providing an administration panel that interacts with the database.

The site will be device-agnostic and will provide a user portal for submitters and a portal for reviewers. These interfaces will provide unique sets of functionalities. Coupled with the web application will be an administration panel where select admin users will be authorized to control tasks related to the new year's information, table assignments for posters, report generation, and special requests from users.

Because this product requires the storage of information, a database will be used. The website will communicate with this database to manage a list of faculty members, departments, registered submitters, and archived poster submissions among other data.

2.2 Project Background

The Michael and Sally McCracken Student Research Symposium (SRS) is an event at TCU that invites undergraduate and graduate students to showcase their research projects to their colleagues and professors. The projects can be involved in any of the Science and Engineering disciplines at TCU, including interdisciplinary. The students participating will present their research projects inside of the Tucker Technology Center on a predetermined date.

TCU's existing SRS site provides an outdated submission-review system for the SRS, an event growing in popularity. The previous system was mostly a front-end to a manual collection of procedures to receive, review, and present research projects. There is a growing need to make a more robust system that can provide smart interfaces for various users that will allow for secure submitting, voting, and administrating.

The new system would provide a host of automated processes that would facilitate in the managing of the SRS event from year to year. This is possible due to a myriad of free technologies such as Django that will allow for a more seamless experience participating in and managing SRS.

3. Resource Specification

3.1 Software

Software Name	Software Type	Software Purpose	Version
Django	Python web application framework	Django is a framework that provides a structured way of handling incoming HTTP requests and delegating them to routes based on URLS.	1.9.10
Python	Programming language	Python is the language that will be used in the backend.	2.7.12
Semantic UI	CSS library framework	Semantic UI is a front-end CSS framework to help invent a beautiful and responsive layout.	2.2.4
Sublime Text 3	Text editor	Sublime Text 3 is the text editor that contains feature rich editing and syntax highlighting to speed up software development.	3126
PostgreSQL	DBMS	PostgreSQL is the persistent transaction based data store that directly interfaces with Django to allow for ORM database access without worrying about DBMS syntax.	9.6
Apache	Web server	Apache delegates requests from 80/443 to our Django application running on port 8000. It is responsible for serving static files like images and CSS.	2.4.6
VM Centos Linux Server Image	Virtual operating system	VM Centos Linux Server Image is the operating system we have chosen to support all the features of our application. This includes Apache and Django.	7
Slack	Messaging application	Slack will be our primary means of communication apart from meetings.	N/A

3.2 Hardware

Hardware	Hardware Purpose
TCU server	A server is necessary to host the CentOS VM specified in the software requirements portion of the plan. It requires the resources to fully support the uses of the SRS system.
Two MacBooks and Three PCs	These computers will allow for distributed development. The team will be able to access the provisioned TCU server via SSH to perform continuous integration development.

3.3 Contacts

Name	Role	Contact Information
Dr. Donnell Payne	Project Supervisor	d.payne@tcu.edu
Dr. Liran Ma	Customer	l.ma@tcu.edu
Billy Farmer	Customer	b.farmer@tcu.edu

4. Project Management

4.1 Milestones and Deliverables

Completion Date	Task
October 21st	Finalizing Project Requirements
November 11th	Iteration I - Admin (Annual Setup)
December 16th	Iteration II - Submitter, Reviewer, and Admin Basic Activities
February 7th	Iteration III - Admin (Balloting), Reviewer (Submit Winner)
March 2nd	SRS Registration Opens
March 10th	Iteration IV - Admin (Gen. Booklet/Badges), Viewer (Find Poster)
March 23rd	SRS Registration Deadline
April 6th	SRS Poster Deadline for Judging
April 7th	Iteration V - Migrate Old System, Create SRS Poster
April 21st	Day of SRS
May 4th	Final Senior Design Presentation

4.1.1 Iteration I

- Hardware and Software Setup
    - Establish group communication channels
    - Provision laptops with software dependencies
    - Provision server with operating system
- Admin
    - Admin can CRUD departments and chairs
    - Admin can CRUD SRS Committee information
    - Admin can CRUD important dates/times
    - Admin can CRUD speaker information, pictures
    - Admin can CRUD table information (number of tables, number of posters per table, floor assignment, sessions, special accommodations)
    - Admin can CRUD logins for chairs
- Architect Database Schema
- Group Learning
    - Django/Python
    - PostgreSQL
    - Apache
    - Bootstrap
    - Semantic UI

- Project Documents
    - Complete Requirements Document v1.0
    - Complete Project Plan v1.0
- Create Skeleton SRS Senior Design Website on brazos.cs.tcu.edu
    - Upload Project Plan v1.0
    - Upload Requirements Document v1.0 (use cases and wireframes included)
- Customer Collaborative Review
    - Review skeleton SRS website
    - Review admin panel demonstration
    - Review requirements
    - Review database schema
- QA
    - Test SRS website for mobile compatibility and inter-browser compatibility
    - Test SRS senior design website for mobile compatibility and inter-browser compatibility
    - Test admin panel

4.1.2 Iteration II

- Admin
    - Can CRUD abstracts
    - Can CRUD posters
- Submitter
    - Can submit abstract
    - Can submit poster
    - Can identify as primary author and co-authors can update information
    - Can update abstract
    - Can update poster
- Reviewer
    - Can view department's posters
- Viewer
    - Can drill down into posters by specific departments
    - Can filter by year
- Create skeleton SRS website
- Finish SRS senior design website on brazos.cs.tcu.edu
- Implement database
- Project Documents
    - Complete Project Design Document v1.0
    - Update Project Requirements and Project Plan
    - Update WARS
    - Compile semester presentation materials
- Customer Collaborative Review
    - Review submission process
    - Review reviewer login process
    - Review admin capabilities
    - Review database implementation
- QA
    - Test submitter portal

4.1.3 Iteration III

- Admin
    - Can create the ballots for each department
    - Can generate table assignments
- Submitter
    - Can reset password
    - Can view table information
- Reviewer
    - Can enter final rankings into the online reviewer interface for each category of each department (undergraduate and graduate)
- Project Documents
    - Update WARS
    - Update Project Plan
    - Update Project Requirements
    - Update Design Document
- Customer Collaborative Review
    - Review the ballot workflow process
    - Review the ballot layout
    - Review admin's toolset
- QA
    - Test that ballot is correctly generated
    - Test that table assignments are being assigned correctly
    - Test that admin tools are functioning

4.1.4 Iteration IV

- Admin
    - Can generate SRS booklet information
    - Can generate name badges
- Viewer
    - Can view the location and session of a poster
- Project Documents
    - Update WARs
    - Update Project Plan
    - Update Project Requirements
    - Update Design Document
    - Create SRS abstract and submit
- Customer Collaborative Review
    - Review table assignment procedures
- QA
    - Test that the booklet is correctly generated
    - Test cross-device functionality, especially on mobile
    - Test that SRS Committee can view the winners

4.1.5 Iteration V

- Migrate Old SRS Site Information to New SRS Site
- Project Documents
    - Finalize WARS
    - Finalize Project Plan

- o Finalize Design Documents
  - o Finalize Project Requirements
  - o Create final presentation PowerPoint
  - o Create SRS poster and submit to website
- Customer Collaborative Review
  - o Review final presentation
  - o Discuss future proofing system
  - o Ensure all parties who should be using the system know how to use it
  - o Verify all components are functioning to customer's requirements
- QA
  - o Verify database migration is properly reflected in site archives
  - o Test SRS website extensively

4.2 Team Member Roles and Responsibilities

Name	Role	Role Description
Quang Nguyen	Database Lead	Will play key role in database design.
Thaddeus Rix	Testing Lead	Will play key role in testing the limits of software through development.
James Stewart	Project Lead	Will play key role in coordinating the information used to support overall development.
Michael Giba	Tech Lead	Will play key role in developing backend processes.
Son Nguyen	Documentation Lead	Will play key role in document coordination and management.

4.3 Monitoring and Reporting Mechanisms

4.3.1 Meetings

Meetings will be held weekly from 5:30 PM to 6:30 PM each Monday in TUC. There may be additional meetings for more discussion if needed.

4.3.2 Communication

The team will communicate mainly by face-to-face discussion. If not, we will communicate online by using Slack. Communication with the client will be face-to-face or email. Working documents will be shared through Slack and Google Drive.

4.3.3 Requirements Control

Project requirements will be discussed and reviewed after each meeting with Dr. Payne and the clients – Dr. Ma and Mr. Farmer. Through the use case tables, the minimum requirements will be determined. The requirements, however, can be changed in the future to reflect the client's needs.

4.3.4 Weekly Report

The reports, reflecting the progress of the project, will be posted on our website

4.3.5 Walkthroughs

At least once a week the group will meet to discuss project specifics with the client if possible, otherwise team meetings will be held. Internal meetings within the group will be conducted on a frequent basis to break down the development tasks and divide the work among members.

4.4 Risk Management

4.4.1 Risk Identification and Analysis

Risk	Risk type	Probability	Effects
Members become ill and cannot work at critical time	People	Moderate	Serious
Project is not finished on time	Estimation	Low	Catastrophic
Software tools do not work together in a seamlessly integrated way	Tools	Moderate	Tolerable
Members experience difficulty learning and implementing Django	People	Moderate	Serious

4.4.2 Risk Planning and Monitoring

Risk	Strategy
Staff are sick and can't work during critical times	Work on concurrent tasks and communicate through Slack to transfer work to others
Project is not finished on time	Set deadline; push others to work
Software tools do not work together in an integrated way	Perform research to determine if they are compatible. If not, change the software
Members have a hard time learning and implementing Django	Spend more time learning Django; have teammates assist one another

5. Glossary of Terms

CRUD: Create, read, update and delete.

QA: Quality Assurance

Virtual Machine (VM): Operating system that is installed on software and imitates dedicated hardware.

WARS: Weekly Activity Reports