Project Plan

for the

Construction Department of Southern Illinois University Edwardsville

by

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CS425 / CS499 Senior Project

Concrete Drying Application Team

CS-PLAN

Revision 1.0.0

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Change Log:

Revision	Change Note(s)

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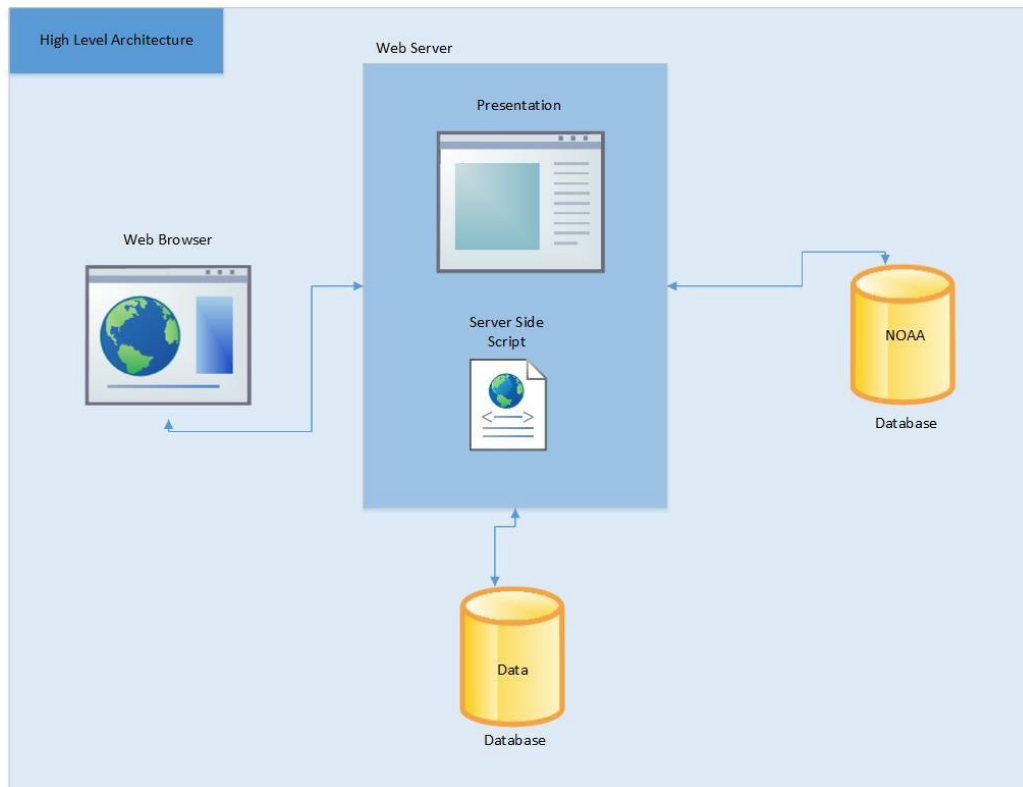**Tables**

1   Estimation

Figure 1: High Level Architecture

To estimate the time need for the overall project it has been divided into four parts. The first part is to complete the displaying of the evaporation rate and graph. The next is to create login functionality. The third thing is to add the notification system. Following that, ways of viewing statistical information about the site would be created.

Milestones:
Display Evaporation Rate: 10 + 5 + 1 + 1 + 1 + 2 + 1 + 1 + 1 + 1 = 24

Account: 10 + 5 + 7 + 2 +15 + 5 = 44

Notifications: 10 + 10 + 10 + 5 = 35

Statistical Data: 2 + 2 = 4

Total: 107 man hours

2 Resources

Resource needed	Reason	Date needed
Server	For web application and database	11/10/14
ITS	Consultation for any security procedures needed to be followed	11/10/14
Anne Werner	Deciding on the final value of what will be considered a concrete pour with no risks, some risk, or major risks	10/20/14

Table 1: Resources

3 Scheduling

Working two hours a day Monday through Thursday, it is estimated to take 54 man days to complete.

Holidays / Breaks:

Thanksgiving Break -   11/24/14 - 11/31/14

Winter Break -   12/12/14 - 1/12/14

Spring Break -   3/9/14 - 3/15/14

A detailed schedule is shown in Schedule.png.

4 Communication

In addition to using Bitbucket, we will be using Dropbox for some file management. Also, we use Google Hangouts for group communication.

5 Quality Assurance

Table 2: Risk Table

No.	Risk Label	Llikelihood	Impact	Score	Mitigation Strategy	Contingency Plan
1	no prior security knowledge	5	5	25	N/A	Learn security
2	limited web API knowledge	5	4	20	N/A	Learn web API
3	website is not user friendly	3	4	12	perform usability study	take results from usability study and improve UI
4	can't get a server from ITS	2	5	10	N/A	Use backup server for development
5	host server goes down	2	3	6	N/A	Use backup server until main server comes back up
6	fail to meet deadlines	2	3	6	try to space our milestones out in a way that gives us enough time complete them, meet at least once a week to make sure everyone is on track	re-evaluate our milestones and adjust them
7	customer adds requirements	3	2	6	get all the requirements beforehand and add it to the process spec	change the process spec and project plan to account for new requirements
8	NOAA permanently goes offline	1	5	5	write code with low coupling so that it is easily able to use another weather API	Use a different weather service
9	Project data gets lost	1	5	5	store on our local computers in addition to using Bitbucket	upload latest version we have to minimize lost work
10	lose a team member	1	4	4	follow SAGE process spec	redistribute tasks and workload
11	cannot get SIUE email for notification service	2	2	4	trying now to get one from ITS	use a free account from another email service

Table 3: Test Plan

What is being Tested	Type of Test	Description
Customer Satisfaction	Acceptance testing	We will have the customer use the product when he is going to be working on a project to see if it conforms to his requirements.
UI	Usability study	We will perform a usability study to make sure the website is intuitive and easy to understand. We will take notes on what users like and dislike about UI aspects (colors, fonts, etc.).
Navigation	System testing	During the usability study we will also have users run through a typical scenario without guidance to see how easy/difficult the website is to find out what to do. We will record how long they take to navigate each interface and find ways to make the website easier to navigate then test the next user.
Calculating probability of shrinkage cracks	A/B testing	We will run numerous calculations manually and by the program to ensure that results are accurate.
Data retrieval	Performance testing	We will run data retrieval at varying times of the day with different network conditions in order to record how long it takes to pull data from NOAA.

6 Exit Strategy

6.1 425 Exit Strategy

Our teams exit strategy is to have a core component finished. That core component will have the functionality to be able to enter a location then having a web service gather weather data from NOAA for every hour for the next seven days. Then for each hour perform the calculation to determine the evaporation rate which determines the probability that concrete shrinkage cracks will form. This data will then be presented in a line graph. The line graph will have 3 colors red, yellow, and red where red has the highest risk, yellow has a moderate chance, and green means minimal/no chance of shrinkage cracks to form. The line graph will have different views such as week view and day view and specific weather data that was used for a calculation will be able to be seen by clicking on the line graph for a specific hour of the day.

6.2 499 Exit Strategy

The second semester exit strategy includes tests, demonstrations, and usability studies. When implementing the rest of the requirements (Create a database, create/edit/delete an account, forgot password, add/edit/delete notification, add/modify/delete project, and web site usage data) we will perform performance and system testing on notifications to determine if weather data is being updated correctly when needed and if the notifications is correctly notifying the user. Also, we will perform compatibility testing to make sure that for the 3 major browser the software works correctly and looks similar on each browser.

After the rest of the requirements are done being implemented there will be a usability study which will be performed to test aspects of the UI such as ease of use and navigation. After the usability study is performed and the necessary changes are made we will perform installation testing. One of the last things we do is perform acceptance testing which will determine if the client accepts the software and all of the clients requirements are met and satisfied. Guides will then be made on how to view the web site usage statistics by using the admin account.