

UIC Student Website Project

Executive Summary

The University of Illinois at Chicago's student website is currently slow and lacks modern features that our project management team believes would be better and more user friendly for students. Our goal is to create a functional website for the students to be able to use and easily navigate.

Outcome:

By 8/1/2018, our goal is to have a fully functional website for the students of UIC in order to better communicate with their instructors and peers, complete assignments and quizzes easily, register for upcoming courses, and many other features.

Proposal:

In order to achieve a more functional website for UIC students, we propose the following steps for creating a website:

- 1) Project plan- We first need a plan of attack in order to have the best possible outcome for our final result. this will include developing a charter, creating a management plan, estimating a budget, fixing schedules, and allocating resources.
- 2) Collect requirements for web design- This will include sorting out functionality, organizational issues and technical specifications.
- 3) Determine technical infrastructure and security- This will allow us to decide on how many and what kind of servers we would like to use, as well as our network. We will also decide our use of security.
- 4) Plan and develop content- This will allow us to determine how we choose to develop site navigation, user interface development, work out coding and javascripts, etc.
- 5) Configure database- This will allow us to compile our user credentials, and determine components.
- 6) Testing- This will allow us to make sure that everything is appropriately integrated into the website before it is launched.
- 7) Implementation- This is where we will perform a demo for the stakeholders, obtain feedback, and fix bugs before the final release.

Risks:

Some risks that we will have will be the possibility of a security breach, hardware malfunctions, and site crashing.

- 1) Security breach- To avoid this we will outsource in order to obtain a firewall and use antivirus software.
- 2) Hardware malfunctions- We will procure quality products and pay necessary fixing costs.
- 3) Site crashing- Our only option will be to have an immediate response to the shutdown.

Recommendation:

UIC Student Website Project

In order to have a better, more functional website for the students of UIC, we propose a deadline of 8/1/2018 and a budget of \$25,000.

Project Description/Scope

Our project management team's ultimate goal is to create a functional website for the students of The University of Illinois at Chicago because the current student website lacks features that we believe would be better and more user friendly. By doing so, the student base will have an easier time navigating the school's portal system in order to complete tasks such as communicating with their professors and peers, turning in homework assignments, completing quizzes, registering for upcoming courses, and many other features.

In order for our new student website to be considered successful, we have come up with a specific criteria to be met in order to achieve this goal. The main objectives for our project are as follows:

- 1) User friendly- Our first priority is to have a website that is easy to navigate and understand for all grade levels here at UIC.
- 2) Easy to navigate- As mentioned above, we would ideally like a website that is extremely easy for all visitors to navigate. Tabs should be easily seen and all other user interface should be able to be managed with very little difficulty.
- 3) Aesthetically pleasing- It is important to our team that our final product is aesthetically pleasing to our stockholders. When discussing aesthetics for a website, we look to integrate aspects such as flow, branding, colors, images, balance, communication, social media integration, and flexibility. The aesthetics of our website is one of the most critical aspects for us to consider, so these are important tasks to keep in mind when considering the aesthetics of our site.
- 4) Responsiveness- We want a website that will generally have very quick response times, granted, there will be lag issues, we still would like for our website to be able to navigate from page to page with very little lag time for users.
- 5) Complete by fall 2018 semester- We would ideally like for the revamp of the UIC website to be completed no later than 8/1/2018. By completing our project by this date, it will allow our project team to work out the kinks and fix any underlying issues before it is officially launched for the student base to use before the beginning of the semester.
- 6) Keep a budget of \$25,000- We would like for our website to cost no more than this amount with all of the revamping that will be provided.

While coming up with a plan for our new website, deciding upon the deliverables for this project were not easy. However, we feel that the deliverables that we have come up with are the most imperative for having a successful student website for a university.

- 1) Website- We want a complete, whole website for the students to be able to use and navigate with very minimal difficulty. There should be no confusion to users when trying to complete the necessary tasks that they need to complete.

UIC Student Website Project

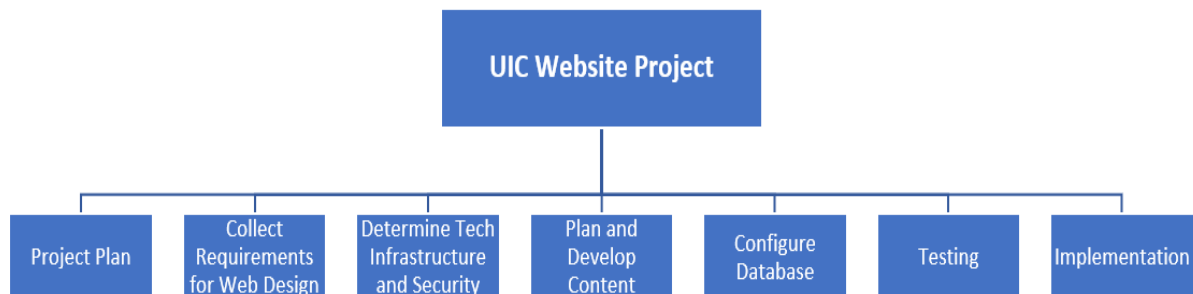
- 2) Coding- We expect that the coding of our website is as accurate as can be. By this, we mean that when clicking on a tab, the user should be directed in the appropriate direction that they were looking to go to, as opposed to clicking on a tab and being redirected to a part of the website that they were not looking to go to. Attention to detail will ensure that our coders will make sure that these types of issues will not occur for the users of our website.
- 3) Backup files- By having backup files for our website, it will ensure that, in the event of a website crash, we will be able to restore the documents loaded that we once had. Backing up all important documents such as calendars, syllabi, and other important course documents will ensure that we will easily be able to fix an issue such as a website crash in minimal time.
- 4) Database- We would like to establish a database for all users in order to make site navigation simpler for everyone. By using a database, it would ensure that everyone's information was securely stored and accessible only to authorized users of the website. implementation of a database would allow users to store their emails and course information.
- 5) Servers- Our project team would like to have servers in order to maintain our database. The implementation of servers would add an second line of security to threats of fraud.

Management Plan

As a management team, the main aspects that we intend to control will include ways of managing project, project meetings, tools, and change control. In order to meet our project goals and objectives, we will have set deadlines and checkpoints along the way. These checkpoints will ensure that we are on pace to stay on track with our estimated end date of 8/1/2018. Our goal is to conduct weekly meetings in order to check the progress of the project and resolve any issues that may arise throughout the course of the website development. The tools that we will utilize for this project will consist of Microsoft Project and all individuals that are required to perform the necessary tasks to complete our goals such as web developers, graphic designers, and coders. In order to keep an eye on change control, our project managing team will be responsible for making sure that all objectives of our project are properly met. This will be monitored by the utilization of our weekly meetings and making sure that objectives stay on track and issues are corrected when they arise.

UIC Student Website Project

Work Breakdown Structure



The second level of the work breakdown structure is organized into seven distinct categories that are necessary to complete the new UIC student website project. The first step, of course, is to plan the project. The others are common tasks in web design that are grouped logically. Each of the major categories is either a project deliverable or a necessary phase in meeting the requirements the final deliverable of the new website. A complete indented outline format of the entire WBS is included as figure 1.1 on page 13-14.

Responsibility Matrix

The project team consists of the project management team: a project manager and two team leads, web designers, computer science students, student volunteers, and test engineers. The project team is employed by the University and the computer science students and student volunteers are part of UIC as well so all are invested in the outcome of the project. The web developers and test engineer will be brought in for this project. The RACI matrix below details which party is responsible for, accountable for, needs to be consulted or informed for certain tasks or activities.

UIC Student Website Project

WBS Activity	Project Team/Work Unit				
	Project Team	Web Dev.	CS Students	Student Vol.	Test Engineer
Project Plan	R	C	I	I	
Collect Requirements for Web Design	A	R	C	I	I
Determine Tech Infrastructure and Security	A	R	C		I
Plan and Develop Content	A	R	R	R	C
Configure Database	A	R	R	R	I
Testing	A	C			R
Implementation	A	R	I	I	I

Communication Plan

Throughout the process of building this website, primary stakeholders include:

- The project manager & management team
- Providers of Servers, Software Licence & Firewall
- Employees
 - Web Developer
 - Test Engineer

UIC Student Website Project

- CS Students
- Student Volunteers
- Consumers of the website
 - Faculty
 - Staff
 - Students
 - Alumni

The following Mechanisms will be used for communicating with the Project Team:

- Regular updates about the Work In Progress in terms of weekly report submission by individual members as well as teams.
- Daily stand up meetings spanning for 15 minutes from 10:00 AM to 10:15 AM detailing about the task completed the previous day, task to be completed the current day and obstacles in achieving the target to be explained by each member participating in the meeting. Email Minutes of Meeting to all the members post meetings.
- Daily updation of Timesheets by each employee to keep track of work that they are performing everyday.
- Weekly meetings by Friday noon, with web developers, CS Students and student volunteers to discuss the issues facing the deliverables.
- Regular meetings every 4 weeks with UIC sponsors showcasing the progression of the website development, getting their feedback and changes needed to be implemented.

Procurement Plan

- Servers - Get quotations for server machines from multiple manufacturers, and select them based on cost, performance and durability

UIC Student Website Project

- Firewall - Search for best antivirus softwares in the market and choose the antivirus which is compatible and suitable for our requirement apt for protecting educational website from hackers and malware
- Software License - Procurement of the following Software Licenses for a limited period for an year and renew depending upon future requirements.
 - Microsoft Visual Studio
 - Microsoft Office Package for documentation
 - Adobe Photoshop for Web Design
 - SQL Server for Database
 - Microsoft TFS for Version Control
 - Selenium for Testing etc

Schedule

Time Estimates:

Task duration time estimates were generated using a combination of past experiences, research, and best estimate. Simple, routine tasks were given shorter durations while the more complex and involved tasks were allocated more time to complete.

Key Dependencies:

The project plan must be written before any other project activities can be started. Next, the website requirements need to be gathered prior to beginning the actual website design. The code must be written and the site finished in order to commence testing. Finally the testing must be complete before implementation can begin and the site can be launched.

Milestones:

The major milestones for the project are:

- 1.3.1&2: setting up the servers and security
- 1.4.2.1: building the site
- 1.4.2.3: integrating email
- 1.7.3: internal “soft” launch
- 1.7.7: Site Launch

Critical Path:

The tasks on the critical path are

1.1 the project plan (all tasks except 1.1.4.1); 1.2.1.3 establish authentication ; 1.2.2.2 data integrity; 1.2.3 technical requirement (all tasks); 1.4.1.1 draft SLA; 1.5 configure database (all tasks); 1.4.2.2.2 integrate database; 1.6 testing (all tasks); and 1.7 implementation (all tasks)
The critical path can be seen in red on the gantt chart in the MS Project file.

UIC Student Website Project

The most important items on the critical path are configuring and integrating the database. These tasks are some of the longest in duration and likely to be the most complex. If not executed as planned these would delay completion of the project. The project plan is also significant since it is at the front end of the project.

As scheduled, the project is set to be completed by 7/24/18, an entire week before the deadline of August 1st. This will allow a buffer (not built into the project) should the project overrun on time.

Cost/Budget/Resources

- The following work resources will be utilized by the project
 - Web Developers - 4
 - Test Engineer - 1
 - CS Students - 4
 - Project Team 3
 - Project Manager - 1. Team Lead - 2
 - Student Volunteers - 3
- The following material resources will be utilized by the project:
 - Software License
 - Servers
 - Firewall
- While we were allocating resources like web developers, CS Students, Student Volunteers and Project Management Team, we were facing resource overload. Later we had to resolve resource overloads by leveling the overload manually in all the above resource categories.
- The total cost of the work as well as material resources is \$26,170 and the split of cost among resources is given below:

Resource Name	Type	Max. Units	Std. Rate	Cost/Use
---------------	------	------------	-----------	----------

UIC Student Website Project

Web Developer	Work	400%	\$25.00/hr	\$0.00
Test Engineer	Work	100%	\$20.00/hr	\$0.00
CS Students	Work	400%	\$15.00/hr	\$0.00
Firewall	Material		\$0.00	\$1,000.00
Software License	Material		\$0.00	\$750.00
Servers	Material		\$0.00	\$1,500.00
Project Team	Work	300%	\$20.00/hr	\$0.00
Student Volunteers	Work	300%	\$0.00/hr	\$0.00

Cost broken down by resource:

Name	Cost	Baseline Cost	Cost Variance
Web Developer	\$13,800.00	\$0.00	\$13,800.00
Test Engineer	\$3,360.00	\$0.00	\$3,360.00
CS Students	\$1,440.00	\$0.00	\$1,440.00
Project Team	\$4,320.00	\$0.00	\$4,320.00
Student Volunteers	\$0.00	\$0.00	\$0.00

UIC Student Website Project

Cost broken down by Task:

Task Name	Total Cost
Project Plan	\$2,400.00
Collect requirements/web design	\$4,640.00
Determine tech infrastructure and security	\$3,850.00
Plan and Develop Content	\$5,240.00
Configure Database	\$2,680.00
Testing	\$3,520.00
Implementation	\$3,840.00

Date and hours broken down by Resource:

Name	Start	Finish	Remaining Work
Web Developer	Fri 3/30/18	Tue 7/24/18	552 hrs
Test Engineer	Mon 6/4/18	Tue 7/3/18	168 hrs
CS Students	Fri 4/13/18	Tue 5/29/18	96 hrs
Project Team	Mon 3/12/18	Tue 7/24/18	216 hrs
Student Volunteers	Thu 4/5/18	Mon 5/7/18	120 hrs

Discrepancy with cost in our charter:

UIC Student Website Project

We initially estimated the budget of the project to be \$25,000 and while estimating it using the work breakdown structure, the costs came up to \$26,170. So we have a discrepancy of about \$1,170 which is additional to what we had expected to be our budget for this project.

Risk Management Plan

Identifying Risk

The risks that are associated with this project revolve around what can affect the outcome of the project in either time, resources, or quality of the final product. The risks were identified by gathering commonly found issues in web design. The risks were then related to this specific project and prioritized by the likelihood they may occur and the potential impact they would have on the project.

Key Risks:

The key risks that were identified would have a significant impact, likelihood of happening or both. The top three risks to the website project are: a data breach, hardware issues, and the site crashing. The Risk Assessment Matrix below outlines the individual risks, their consequences, as well as our response plan.

Risk Assessment Matrix

Risk	Consequence	Likelihood	Impact	Priority Score	Response Strategy	Response Plan
Data Breach	loss of student info, image, liability	2	5	10	Transfer	Outsource firewall and antivirus software
Hardware Issues	Cost to repair	3	3	9	Mitigate	procure quality products
Site Crashing	Downtime	4	2	8	Accept	immediate response to shutdown(s)

UIC Student Website Project

Compatibility Issues	Time to fix, missed deadline	2	3	6	Avoid	planning on front end, select compatible features
Integration Issues	time and functionality	3	2	6	Avoid	thorough planning and testing
Scope Creep	additional cost and time	3	2	6	Avoid	Communication, well defined charter, scope, and exclusions
Data Migration	time and resources	3	2	6	Accept	allow ample time in scheduling and include buffer
Staff Turnover	quality of work	1	4	4	Mitigate	Utilize multiple web developers
(Under) Estimate of time to complete	additional cost to crash to make up lost time	2	2	4	Avoid	careful planning and estimates of time to complete critical tasks

Figure 1.1 WBS

WBS Code	Task Name
1	New Student Website
1.1	Project Plan
1.1.1	Project Charter
1.1.1.1	Write Scope Statement
1.1.1.2	Create WBS
1.1.2	Develop Management Plan
1.1.2.1	Identify Risk Management Plan
1.1.2.2	Estimate Costs
1.1.2.3	Establish Quality Metrics

UIC Student Website Project

1.1.3	Estimate Budget
1.1.4	Fix Schedule
1.1.4.1	Determine Critical Path
1.1.5	Allocate Resources
1.2	Collect requirements/web design
1.2.1	Functional
1.2.1.1	Determine Administrative Functions
1.2.1.2	Set Authorization Levels
1.2.1.3	Establish Authentication
1.2.2	Non-Functional
1.2.2.1	Identify Language Requirements
1.2.2.2	Data Integrity
1.2.2.3	Determine Capacity Requirements
1.2.3	Technical
1.2.3.1	Decide Platform
1.2.3.2	Decide Technology
1.2.3.3	Select Browser
1.2.3.4	Choose type of Database
1.2.3.5	Establish Version Control and Reporting
1.3	Determine tech infrastructure and security
1.3.1	Servers and Network
1.3.1.1	Determine Server Capacity
1.3.1.2	Create Secure Network
1.3.2	Security
1.3.2.1	Setup Firewall
1.3.2.2	Install Firmware
1.4	Plan and Develop Content
1.4.1	Business Documentation
1.4.1.1	Draft SLA
1.4.2	User Interface Development
1.4.2.1	Front End Elements
1.4.2.1.1	Create Images and Content
1.4.2.1.2	Write HTML Code
1.4.2.1.3	CSS and JavaScript
1.4.2.1.4	Site Navigation
1.4.2.1.4.1	Design Layout
1.4.2.2	Back End Elements
1.4.2.2.1	Generate SQL Queries
1.4.2.2.2	Integrate Database with Website
1.4.2.2.2.1	Interface development

UIC Student Website Project

1.4.2.2.2.2	Load Database content into website
1.4.2.3	Integrate User Email
1.5	Configure Database
1.5.1	Compile user credentials
1.5.2	Determine components and entries
1.5.3	Create Tables with user data
1.5.4	Create procedure to update data
1.6	Testing
1.6.1	Create testing plan and criteria
1.6.1.1	Write Test Documents
1.6.2	Assign test team
1.6.2.1	Select test engineers
1.6.3	Develop test cases
1.6.3.1	Conduct Unit Testing
1.6.3.2	Conduct User Acceptance Testing
1.6.3.3	Assess Regression Analysis
1.6.3.4	Test Client/Server compatibility
1.6.3.5	Conduct Integration Testing
1.7	Implementation
1.7.1	Present Demo for Customer (UIC)
1.7.2	Collect Feedback
1.7.3	Launch Internal Pilot to Faculty/Staff
1.7.4	Send System wide announcement
1.7.5	Make Enhancements/Bug fixes
1.7.6	Deliver Documentation
1.7.7	Site Launch