12/4/2018

AnaTwitics

Project Charter

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1 - GENERAL INFORMATION

1.1 Project Description

Name: AnaTwitics

Proposed Start Date: August 28, 2018

Proposed End Date: December 4, 2018

The AnaTwitics project will include the following activities:

- Hashtag and Keyword search
    - Given a hashtag or keyword to search, AnaTwitics will compile the frequency of use of the word over a set range of dates.
- Provide graphical analysis
    - Based on the results from the hashtag/keyword search, AnaTwitics will generate a graph based on the number of uses per day versus the date.

1.2 Project Purpose

In today's cyber-driven world, social media sites, like Twitter, reign king of the web. Users spend hours upon of hours on the site browsing tweets of profiles they follow, reading news stories, and talking about their daily lives. The site serves as a treasure trove of unbiased customer feedback for businesses, that has remained largely untapped until now. AnaTwitics looks to be break ground by becoming one of the first Sentiment and Trend Analysis tools readily available for both personal and commercial use.

1.3 Project Goals, Outcomes, and Success Criteria

The outcomes of the project will be:

- Successfully develop a web-based Software as a Service (SaaS) where users can easily
- Project will remain on scope, on time, and on budget.
- Resulting software will be accessible, dependable, efficient, and maintainable.

1.4 Project Benefits

Users of AnaTwitics will benefit from its analytical power from the very first time it is used. The program will allow marketing professionals to gain insight on who is talking about their product, what is being said, and when. These metrics are compiled into an easy to ready graph and presented to the user.

1.5 Development Team Roles and Responsibilities

Name	Role	Responsibilities
Noland Crane	IT Security Analyst	- Identify project risks - Draft Risk Management documentation - Assist other team members when needed
Jared Edler	Project Manager	- Draft Project Charter - Ensure project meets all established Goals, Outcomes, and Success Criteria - Assist other team members when needed
Tom Hood	Lead Web Developer	- Design UI - Implement web-based solution - Maintain web page functionality
Ryan Huffman	Lead Python Developer	- Integrate Twitter API with appropriate Python module(s) - Create script capable of being embedded in a HTML-based web page - Maintain script functionality

1.6 Identification of Stakeholders

Name	Title	Contact	Communication	Comm. Vehicle
Noland Crane	Development - IT Security Analyst	cranec@fontbonne.edu	Status reports and internal/external project status meetings	Email
Jared Edler	Development- Project Manager	edlerj@fontbonne.edu	Status reports and internal/external project status meetings	Email
Zach Hempen	Project Sponsor	hempenz@fontbonne.edu	External project status meetings	Email
Tom Hood	Development - Web Developer	hoodt@fontbonne.edu	Status reports and internal/external project status meetings	Email
Ryan Huffman	Development - Python Developer	huffmanr@fontbonne.edu	Status reports and internal/external project status meetings	Email

2 - SCOPE MANAGEMENT

2.1 Purpose

The Scope Management Plan will cover how current and future requirements for the project are collected, establish a baseline scope for the project, and outline the processes necessary for successfully incorporating changes in the project.

2.2 Requirement Collection Process

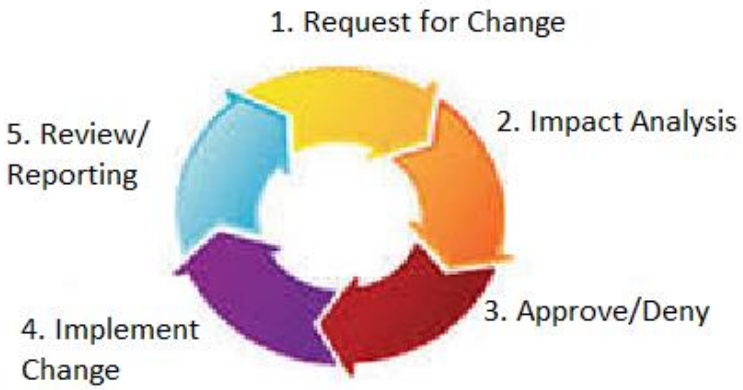
Initial requirements will be drafted over multiple brainstorming sessions involving identified stakeholders as well as functional analysis of other pre-existing systems. Protypes will be delivered and tested by the Development team in order to extrapolate any further changes or desired functionality. Should any be identified, the changes must first be approved via the Change Management Process (**2.4**) or the Configuration Management Process (**2.5**) when appropriate.

2.3 Project Scope/Requirements

- Collect user data using a Python script, utilizing Twython module, to interface with Twitter's API.
- Design a web page the allows the user to query the Python script with specific hashtags or keywords.
- Display findings to user in an easily interpretable graph.

2.4 Change Management Process

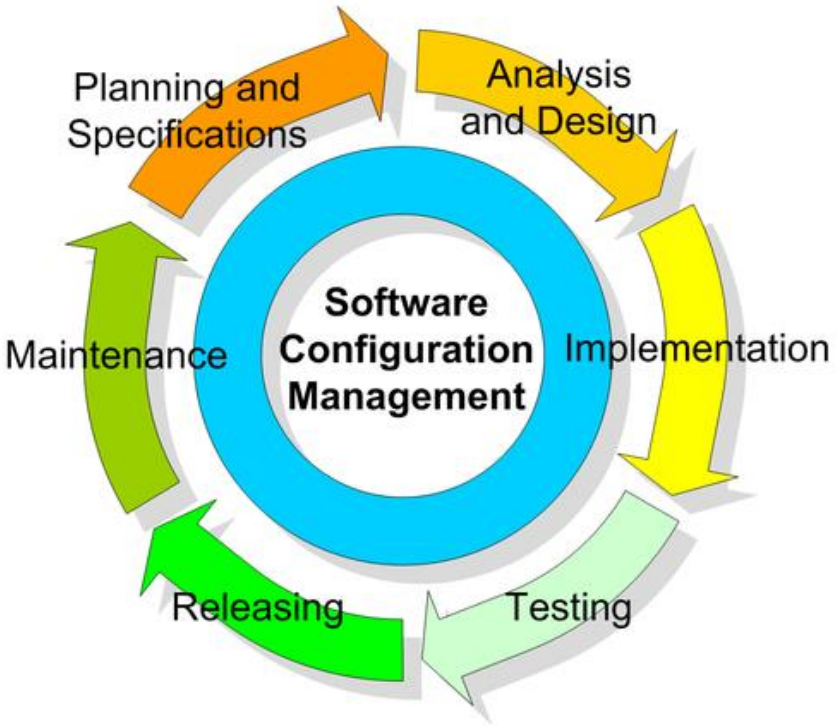
The Change Management Process is established to prepare, equip, and support the project to successfully adopt change in order to drive organizational success and achieve project outcomes. Any changes requested by development personnel or stakeholders must be approved by the Project Manager or appropriate lead developer via the process outlined below. Proper review/reporting must be included for future changes regarding similar system components.



Change Management Process

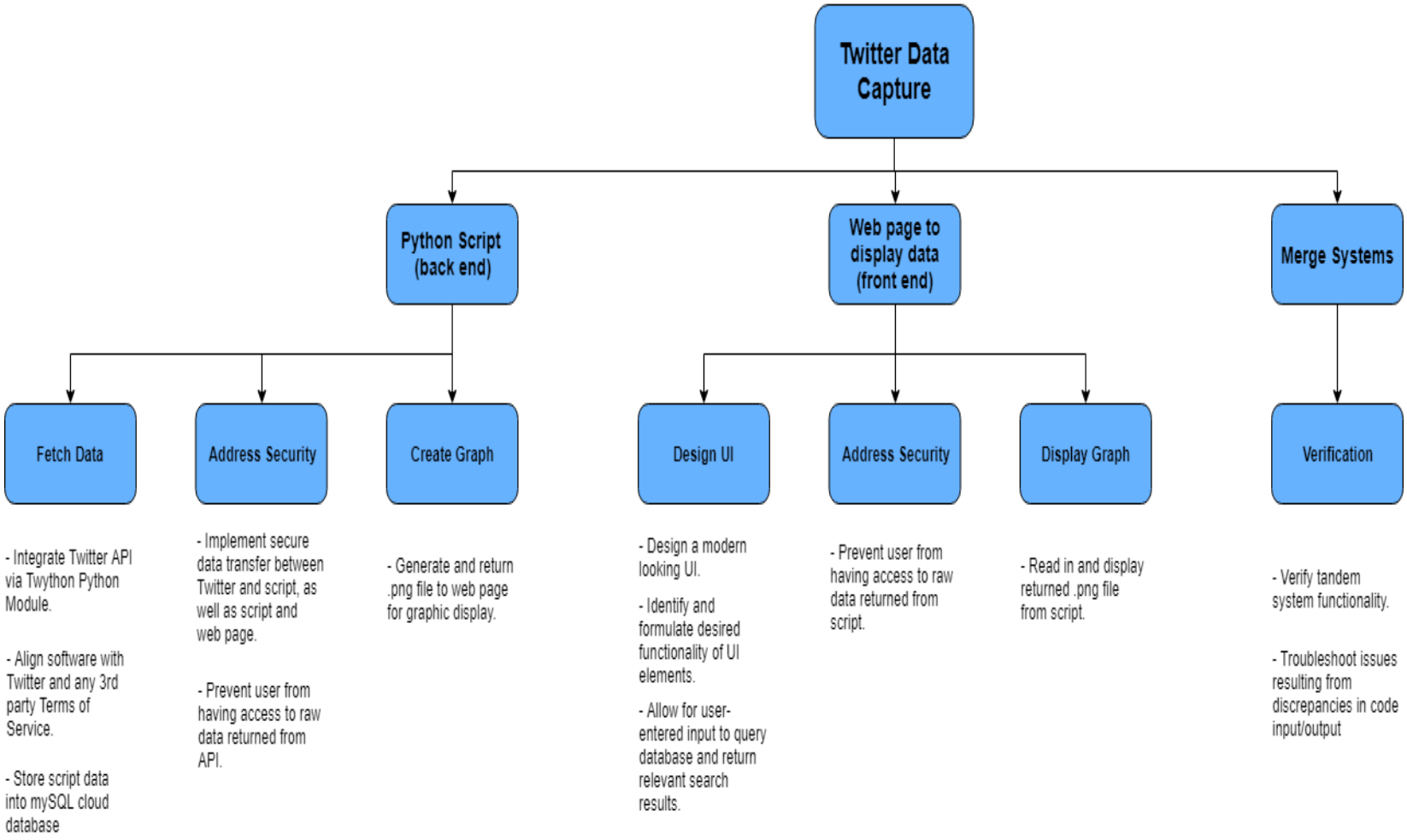
2.5 Configuration Management Process

The Configuration Management Process is established to help guide developers on procedural changes as well as ensure consistency among logical assets in the operational environment. This process seeks to identify and track individual components in order to assess functional capabilities and interdependencies. The process itself is outlined below.

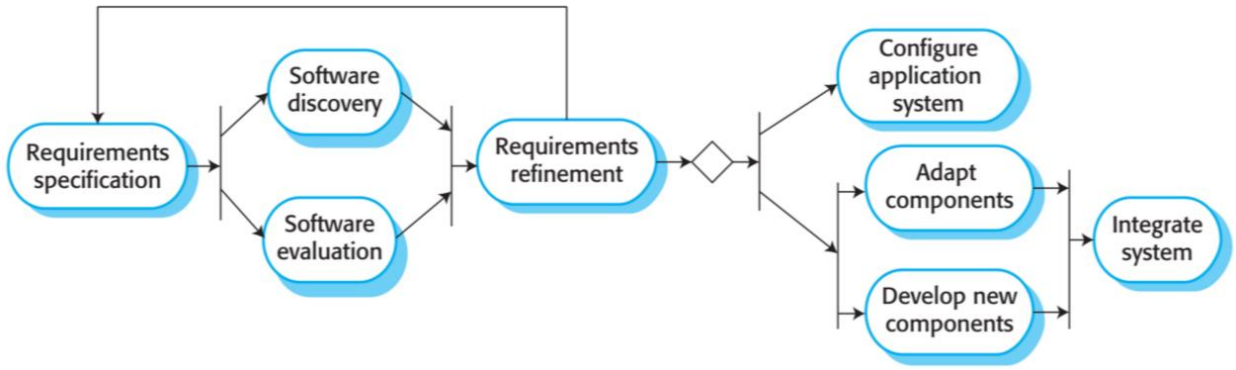


2.6

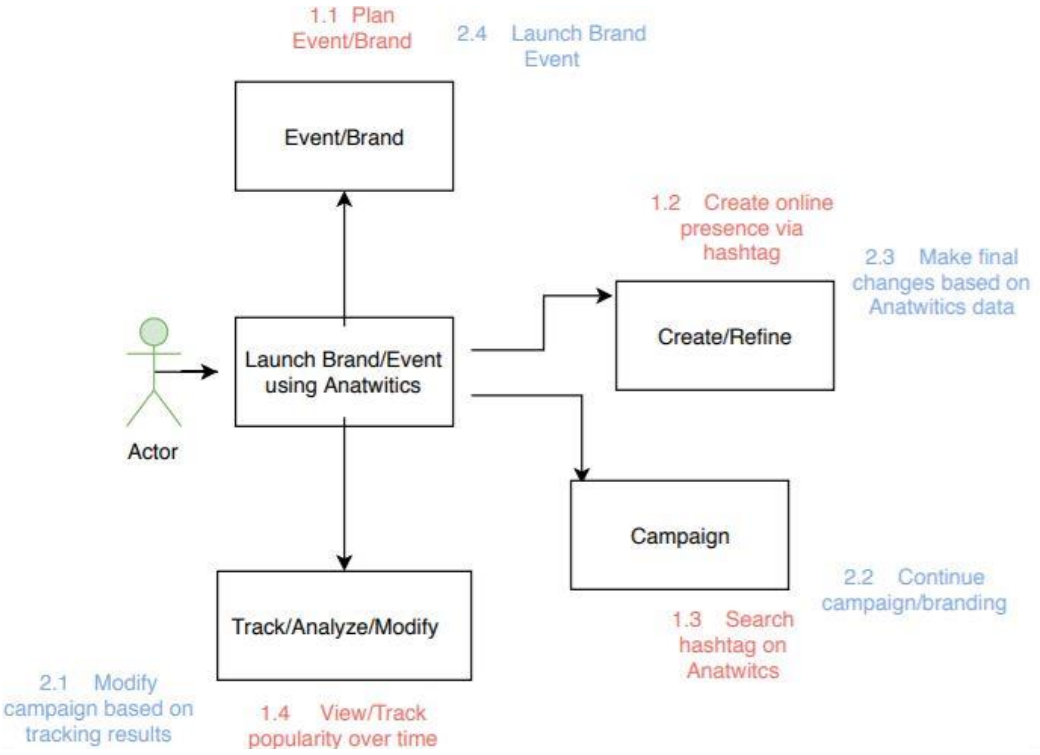
AnaTwitics Work Breakdown Structure



2.7 Software Process



2.8 UML Use Case Diagram



3 - SCHEDULE MANAGEMENT

3.1 Purpose

The Schedule Management Plan will identify and sequence development activities of the project as well assess their project duration and impact on the timeline of project.

3.2 Definition and Estimated Duration of Activates

I. Python Script (back end)
   a. Fetch data
      i. Integrate Twitter API via Twython Python Module *(18 hours)*
      ii. Align software with Twitter and any 3rd party Terms of Service *(4 hours)*
      iii. Store script data into mySQL cloud database *(10 hours)*
      iv. Total hours per section: *22 hours*
   b. Address security
      i. Implement secure data transfer between Twitter and script, as well as script and webpage *(5 hours)*
      ii. Prevent user from having access to raw data returned from API *(2 hours)*
      iii. Total hours per section: *7 hours*
   c. Create graph
      i. Generate and return .png file to web page for graphic display *(3 hours)*
      ii. Total hours per section: *3 hours*

II. Web page to display data (front end)
   a. Design UI
      i. Design a modern looking UI *(20 hours)*
      ii. Identify and formulate desired functionality of UI elements *(12 hours)*
      iii. Allow for user-entered input to query database and return relevant search results *(4 hours)*
      iv. Total hours per section: *36 hours*
   b. Address security
      i. Prevent user from having access to raw data returned from script *(2 hours)*
      ii. Total hours per section: *2 hours*
   c. Display graph
      i. Read in and display returned .png file from script *(4 hours)*
      ii. Total hours per section: *4 hours*

III. Merge Systems
   a. Verification
      i. Verify tandem system functionality *(4 hours)*
      ii. Troubleshoot issues resulting from discrepancies in code input/output *(8 hours)*
      iii. Total hours per section: *14 hours*

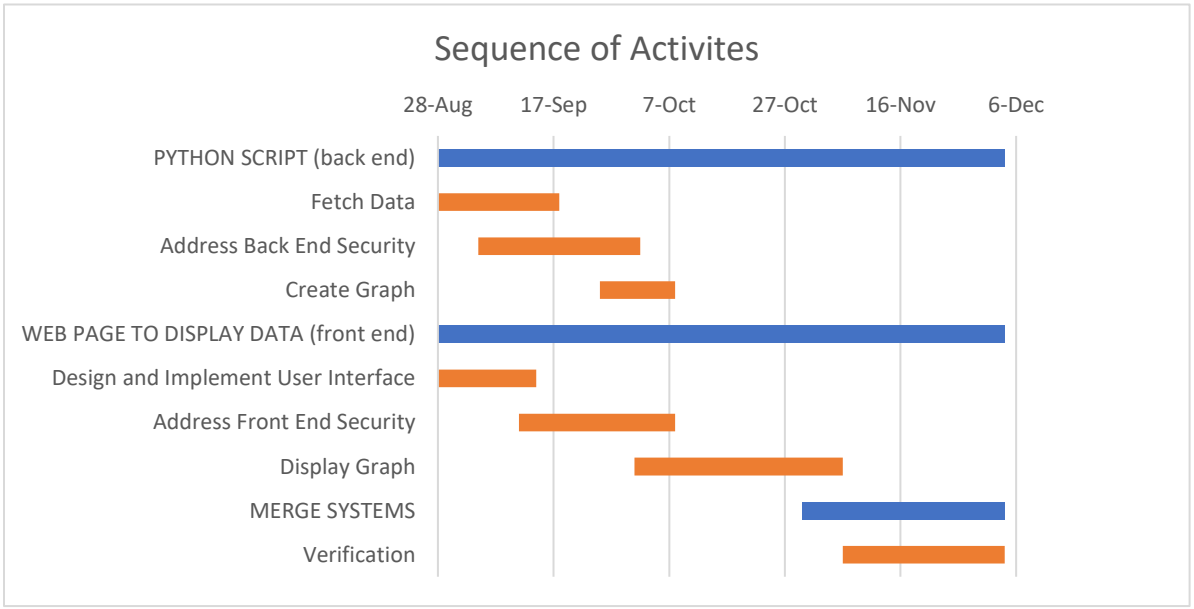
Total estimated hours: ***88 hours***

3.3 Preliminary Schedule

Proposed Start Date	Actual Start Date	Activities
8/28	**8/28**	Project start date, select desired software functionality, assign roles in project
9/4	**8/29**	Draft project charter
9/11	**8/28**	Begin research on respective components of project. Finalize project charter.
9/13	**9/13**	Submit project charter for revision and approval.
9/14	**9/14**	Internal project status meeting
9/24	**9/26**	Internal project status meeting. Deliver first major version of project components.
9/25	**9/26**	External project status meeting
10/9	**10/12**	Internal project status meeting. Deliver second major version of project components.
10/10	**10/12**	External project status meeting.
10/23	**10/23**	Internal project status meeting. Deliver third major version of project components.
10/24	**10/24**	External project status meeting.
10/30	**11/2**	Being to merge front end and back end systems.
11/6	**11/10**	Troubleshoot any issues that directly impact functionality of merged system.
11/27	**11/29**	Test merged systems.
11/28	**11/28**	External project status meeting.
11/30	**12/3**	Close project.
12/4	**12/4**	Present project.

3.4 Sequence of Activities – Gantt Chart

Task(s)			
Start Date	End Date	Description	Duration (days)
28-Aug	4-Dec	**PYTHON SCRIPT (back end)**	98
28-Aug	18-Sep	Fetch Data	21
4-Sep	2-Oct	Address Back End Security	28
25-Sep	8-Oct	Create Graph	13
28-Aug	4-Dec	**WEB PAGE TO DISPLAY DATA (front end)**	98
28-Aug	14-Sep	Design and Implement User Interface	17
11-Sep	8-Oct	Address Front End Security	27
1-Oct	6-Nov	Display Graph	36
30-Oct	4-Dec	**MERGE SYSTEMS**	35
6-Nov	4-Dec	Verification	28



4 - COST MANAGEMENT

4.1 Purpose

The Cost Management Plan will cover the various costs of developing, implementing, and operating the project, as well as give an estimated final budget to operate under.

4.2 Estimated Costs

Web hosting via Amazon Web Service Virtual Private Server (VPS)

- Amazon EC2 c5.large at $0.09 per hour
    - **Estimated $788.40 per year**

Domain name

- **Estimated $12 per year**

Labor

- Estimated labor per team member: 88 hours

Job Title	**Hourly Wage (in USD)**	**Quantity**	**Total project cost (in USD)**
Web Developer	$36.84	1	$3,242.17
Python Developer	$50.38	1	$4,433.40
IT Security Analyst	$40.03	1	$3,522.54
Project Manager	$40.70	1	$3,581.68
			Total: $14,779.79

Twitter API Premium tier

- **$22,788 per year**

4.3 Estimated Budget

Area of Cost	**Total Amount (in USD)**
Development Costs	$14,779.79
Cost of Operation (Contingency)	$23,588.40 per year
Implementation Costs	**Not considered for this project**
	Total: $40,286.59*

* - includes an extra 5% of total budget for error

5 - QUALITY MANAGEMENT

5.1 Purpose

The Quality Management Plan will cover Quality Assurance (QA), Quality Control (QC), and testing criteria for the project.

5.2 Test Strategy and Case Specifications

AnaTwitics will be tested at various points throughout both its development and release lifecycles. Testing will include various use cases, including but not limited to: invalid user-entered data, unknown search phrase, script failure, vulnerability testing, etc.

5.3 Test Checklists

- Identify test area (Web Functionality, Script Functionality, User Experience, Security)
- Identify test case
- Implement test case
- Record result
- If major failure, email the test scenario, test case, and possible reason for failure to the development team.

5.4 Core Success Assurance

This section is to address instances where the project falls off schedule, budget, or scope (scope creep). In the event that the project should begin to skew from expected goals and/or deadlines, all major stakeholders (including Project Sponsor(s), Project Managers, and all project executives/leads) will hold and emergency meeting to address the problem at hand and implement immediate solutions to the problem(s).

Software should also be thoroughly tested, verified, and approved after every prototype and general software release (GR).

6 - COMMUNICATION AND STAKEHOLDER MANAGEMENT

6.1 Purpose

The Communication and Stakeholder Management Plan identifies those who are directly involved in the project, how and when they will communicate amongst one another, as well as how to facilitate and maintain stakeholder engagement throughout the duration of the project.

6.2 Stakeholder Identification and Analysis

Name	**Title**	**Contact**	**Communication**	**Communication Vehicle**
Noland Crane	IT Security Analyst	cranen.@fontbonne.edu	Status reports and internal/external project status meetings	Email
Jared Edler	Project Manager	edlerj@fontbonne.edu	Status reports and internal/external project status meetings	Email
Zach Hempen	Project Sponsor	hempenz@fontbonne.edu	External project status meetings	Email
Tom Hood	Web Developer	hoodt@fontbonne.edu	Status reports and internal/external project status meetings	Email
Ryan Huffman	Python Developer	huffmanr@fontbonne.edu	Status reports and internal/external project status meetings	Email

6.3 Communication Matrix

Vehicle	**Target**	**Description Purpose**	**Frequency**	**Distribution Vehicle**	**Internal / External**
Status Report	All stakeholders	Brief communication of project progress and deliverable status. Include any major changes approved via Changer Management Process.	Bimonthly	Presented orally at team meetings	External

6.4 Project Meetings

Meeting	**Description of purpose**	**Frequency**	**Internal / External**	**Participants**
Status Meeting	Communication of project progress and deliverable status.	Bimonthly	Internal	Development Team
Status Meeting	Communication of project progress and deliverable status.	Bimonthly	External	Development Team and Project Sponsor(s)

6.5 Stakeholder Engagement

Established stakeholders, after approving and providing initial budget request, will be included in all external project status meetings, have first access to new versions of the software, have direct say in future software evolution, and will be reasonably compensated with royalties from any profit of project.

7 - RISK MANAGEMENT

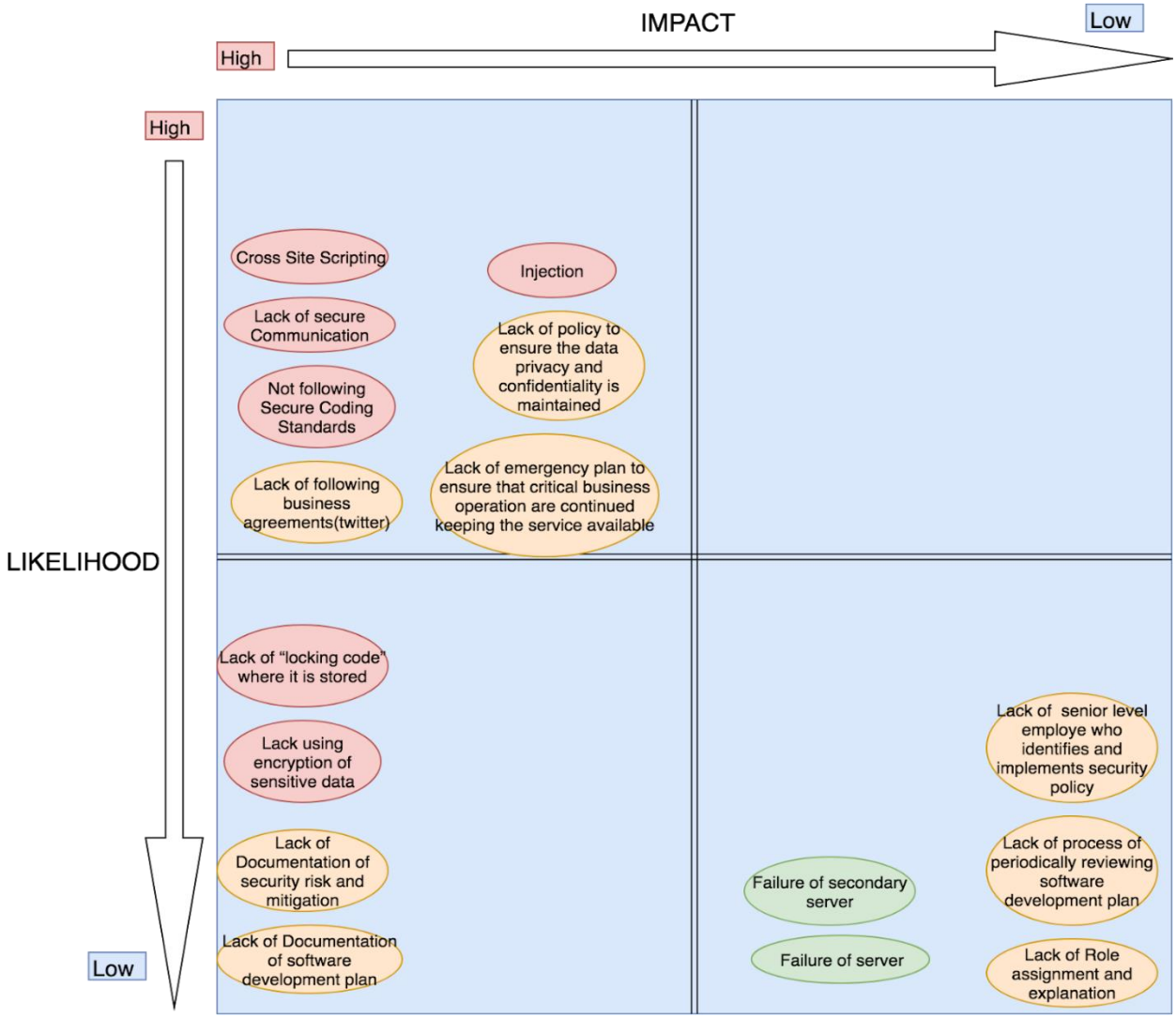
7.1 Purpose

The Risk Management Plan will cover in depth risk mitigation, risk response, and risk verification throughout the whole software process and project management process.

7.2 Identifying Risk

a. Administrative
    i. Lack of Documentation of software development plan
    ii. Lack of Documentation of security risk and mitigation
    iii. Lack of Role assignment and explanation
    iv. Lack of following business agreements(twitter)
    v. Lack of process of periodically reviewing software development plan and risk analysis
    vi. Lack of senior-level employee who identifies and implements the security policy
    vii. Lack of an emergency plan to ensure that critical business operation are continued keeping the service available
    viii. Lack of policy to ensure the data privacy and confidentiality is maintained
b. Technical
    i. Python
        1. Not following Secure Coding Standards
        2. Lack using encryption of sensitive data
        3. Lack of “locking code” where it is stored
        4. Lack of secure Communication
    ii. HTML/JavaScript
        1. Injection
        2. Cross Site Scripting
        3. Not following Secure Coding Standards
        4. Lack of encryption of sensitive data
        5. Lack of secure communication
    iii. Physical
        1. Failure of server
        2. Failure of secondary server

7.3 Risk Register



7.4 Risk Analysis

Overview

a. In this portion of the document, evaluation of all risk in the risk register will be given a ranking (1-5). The ranking is determined by considering the impact and likeness on the organization. This ranking will be used later on in this documentation to determine what risk will be addressed through countermeasures.
b. Not all risk will be considered in the following ranking as they are not deemed important enough to discuss further.

Ranking

Risk	**Ranking (5 being high)**
Cross Site Scripting	2
Lack of secure communication	5
Lack of secure coding standards	3
Lack of compliance – Terms of Service	5
Injection	2
Not ensuring privacy and confidentiality	1
Lack of plan to keep critical business operations	4

7.5 Risk Trigger

In this portion of the documentation, each risk that has been evaluated will go under further evaluation to predict under what circumstances that these risks will occur.

Risk	**Triggers**
Cross Site Scripting	1. Lack of secure coding procedures 2. Insider Threat
Lack of secure communication	1. Lack of secure coding procedures 2. Insider Threat
Lack of secure coding standards	Lack of worker education
Lack of compliance – Terms of Service	1. Lack of worker education 2. Lack of knowledge of twitter legal agreements
Injection	1. Lack of secure coding procedures 2. Insider Threat
Not ensuring privacy and confidentiality	1. Lack of secure coding procedures 2. Insider Threat

7.6 Countermeasures

To ensure that top priority risk does not occur, countermeasures will be implemented to stop them. In this context, we will implement countermeasures for only the risk triggers as a risk can occur if the trigger cannot occur.

Trigger	**Counter Measures**
Insider Threat	1. Employees are required to have a background check every 4 years and upon hiring 2. Rotation of roles policy 3. Shared power policy
Lack of secure coding procedures	1. Education/training will be mandatory for all members of the development team 1. Oversight will be done by senior level employees to ensure procedures are followed
Lack of worker education	1. Company policy to ensure employees attend meetings/seminars/workshops for their position at least once a year

7.7 Monitoring and Review

- It is the duty of the planning in this section to cover how risk registering and mitigation processes will be continued throughout the life of the project.
- The risk in the register will be evaluated frequently. Documentation will be provided upon any actions or events that change the status of a risk. For Example:
    - New risk has been identified.
    - Change in risk register as a result of control improvement.
- The risk register will be reviewed on a monthly schedule, to determine if action needs to be taken to remedy a problem.

7.8 Continuous Improvement

a. The organization and projects will be reviewed periodically to ensure improvements are made to the Risk Management Plan.
    i. The purpose of this framework is to ensure a risk-aware culture.
    ii. This process only remains effective if the context remains relevant to the project and company, this is the scope of the Risk Management Plan moving forward.
    iii. Assessment criteria of the Risk Management Plan are to also be reviewed to ensure they remain relevant to the context of the project

8 Signatures

- **Approval of Project Charter and its associated processes**

Noland Crane (IT Security Analyst) Date

Jared Edler (Project Manager) Date

Zach Hempen (Project Sponsor) Date

Tom Hood (Lead Web Developer) Date

Ryan Huffman (Lead Python Developer) Date

- **Approval for allocation of assets**

Zach Hempen (Project Sponsor) Date