

Needless Youth Unemployment Project Management Plan

Version 1.0

Document Number: SPMP-001

Project Team Number: A02

Project Team Members:



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REVIEW AND APPROVALS

Team Members	Function	Date	Signature
Leo Liu	Co-author	November 04, 2020	
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REVISION LEVEL

Date	Revision Number	Purpose
11/05/2020	Version 1.0	Initial Release

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1. Overview

1.1 Project Summary

The motivation behind this project is the lack of an easy to use system that allows the user to manage and track software engineering internship opportunities. The purpose of this Software Project Management Plan is to identify the project management plan, including the activities, schedule, and budget for the project. The intended audience for this document is the client, the software quality group, the developers, and the project managers.

1.2 Purpose, Scope, and Objectives

1.2.1 Purpose

The project will satisfy the needs of users that are looking for software that allows them to manage and track software engineering internship opportunities on the internet.

1.2.2 Scope

- The system shall scrape websites of companies to notify the user of job or internship opportunities.
- The system shall allow the user to upload a resume and add their interests.
- The system shall show the user the statistics of and the results of their applications.
- The system shall be integrated with a messaging application as a bot to notify the user.
- The system shall autofill fields for users when they fill out the application

1.2.3 Objectives

This will be a high priority project that will be delivered as a single deliverable on December 14th, 2020.

1.2.4 Business Needs

The software needs to be able to scrape various company websites and utilize the messaging application's Bot API.

1.3 Assumptions and Constraints

The system will not be compatible with all companies which post job or internship opportunities. Only companies that are desirable will be scraped with the system.

1.4 Project Deliverables

The project will produce a set of documents, listed below, covering the design of the software.

Name of Deliverable	Date
Project Proposal	09/22/2020
System Requirements Specification	11/17/2020
Software Project Management Plan	11/05/2020
Final Presentation to Peers	12/17/2020

The project will also have a final deliverable, the messaging application bot, that will be delivered on May 10, 2021.

1.5 Schedule and Budget Summary

The first half of the project timeline—running from September 10 to December 17, 2020—will be dedicated to the design and documentation of the software. The second half of the project timeline—from January 25 to May 10, 2021—will be dedicated to the implementation, testing, validation, and release of the software.

1.6 Evolution of the Plan

For scheduled updates, our team will meet once a week to determine if there are updates needed for the plan and we will vote on what updates should be made. Unscheduled updates will occur whenever professor Strauss changes the requirements and the updates will be based on these changed requirements. The changes will be managed using the revision control system at the top of this document.

2. References

Team A02, Project Proposal, Version 1, September 21, 2020

Team A02, SRS-001, Version 1.1, October 21, 2020

3. Definitions

Term	Definition
API	Application Programming Interface. Defines standardized interactions between software.
Scrape	Automated data extraction from an interface meant for human use to feed into another program.
Ping	The term used to describe a notification in the messaging application.
Bot	A specific type of user in the messaging application signifying that there is no person behind it.

4. Project Organization

4.1 External Interfaces

- Only the development environment is provided by external sources.

4.2 Internal Structure

- The project team will be democratically organized.

4.3 Roles and Responsibilities

Person	Responsibilities
Leo Liu	<ul style="list-style-type: none">• Document Author• Submitter to NYU Classes• Software Coder
Md Abedin	<ul style="list-style-type: none">• Document Author• Software Coder• Software Auditor
Rihui Zheng	<ul style="list-style-type: none">• Document Author• Software Coder• Software Auditor
Kyle Lin	<ul style="list-style-type: none">• Document Author• Document Editor• Software Coder• Software Code Organizer

5. Management Processes

5.1 Start-Up Plan

5.1.1 Estimation Plan

5.1.2 Staffing Plan

5.1.3 Resource Acquisition Plan

5.1.4 Training Plan

In the event that the project needs additional staffing, the new staff members will be recruited and trained by the development team. Any hardware and software they will need to complete their tasks will be self-provided.

5.2 Work Plan

5.2.1 Work Activities

Refer to Gantt Chart

5.2.2 Schedule Allocation

Refer to Gantt Chart

5.2.3 Resource Allocation

Refer to Gantt Chart

5.2.4 Budget allocation

5.3 Control Plan

5.3.1 Requirement Control and Traceability

Any team member can propose changes to the product requirements as long as they document the reasoning and a preliminary assessment of the impacts of the changes. The team will hold a meeting for every change proposed and decide whether the change should be implemented and what its expected impacts are on the project's schedule, budget, and resources. The team may choose to implement a prototype of the changes in order to better understand the feasibility of the change and its impacts. Once a decision has been made, it will be documented for traceability.

5.3.2 Schedule Tracking and Adjustment

The schedule will be reviewed on a weekly basis by the team. If the project is falling behind schedule, additional work hours will be added to accommodate this and stay on schedule.

5.3.3 Budget Tracking and Adjustment

5.3.4 Quality Control

The project will be managed by the development team. The number of defects in the project will be monitored and the project will be modified to lower this number.

5.3.5 Reporting Mechanisms

5.3.6 Metrics Collection Plan

Metrics and defects will be tracked in the appendices of the SPMP. Some of the metrics to be tracked are time spent designing, coding, testing, and debugging of each section, and those times compared to estimates.

5.4 Risk Management Plan

Operational Risk: Website not scrapable

Description: A website we want to scrape disallows scraping through its terms of use

Probability: Medium

How discovered: Checking the terms of use of a website

Responsible Party Status: Development team

Mitigation Plan: Choose a different website to scrape

Operation Risk: Team members can't / aren't doing work

Description: One or more team members becomes sick or isn't doing their work

Probability: Certain

How discovered: Tasks are completed behind schedule or are incomplete

Responsible Party Status: Development team

Mitigation Plan: Hold a meeting with the member in question's team and figure out how to catch up.

Technology Risk: Network Disruption

Description: Network and web-hosting issues can disrupt services

Probability: Medium

How discovered: Web server or web app is unresponsive

Responsible Party Status: Backend development team

Mitigation Plan: Identify the issue, and take appropriate action if the cause is on the server end

Economic Risk: Internships cease to exist due to fall of economy

Description: Software engineering internships are expensive and not necessary for businesses, so they could be removed

Probability: Low

How discovered: Their careers page doesn't show internships

Responsible Party Status: Project management team

Mitigation Plan: Switch focus to different job category

5.5 Post Implementation Plan

6. Technical Processes

6.1 Process Model

We will be using the waterfall model for our project management.

Project Initiation Activities:

The project initiation date was September 18 with the project proposal. Activities will include:

- Brainstorming project ideas
- Plan features and functions
- Become familiar with requirements
- Write the proposal
- Review proposal

Project Deliverables:

- Project Domain Definition (October 8, 2020). Reviewed by all members.
- Project Requirements (October 20, 2020). Reviewed by all members.
- Project Management Plan (November 5, 2020). Reviewed by all members.
- Project Analysis (November 17, 2020). Reviewed by all members.

Project Termination Activities:

The project will terminate on December 14 with the presentation. Activities will include:

- Final edits to project deliverables
- Final review by all team members
- Final Presentation
- Software Implementation

6.2 Methods, Tools, and Techniques

This project uses the UML toolset, Google Drive, Google Docs, Microsoft Project, Visual Studio Code, and Discord.

6.3 Infrastructure Plan

The hardware and software needed for the development of this project will be self-provided by the development team. The development team will also procure any servers that are necessary for the project.

6.4 Product Acceptance and Migration Plan

7. Supporting Processes Plans

7.1 Configuration Management Plan

All of the documentation for this project will be stored in Google Drive and on the Github repository. Discord and Messenger will be used to communicate among members of the development team.

7.2 Qualification (Verification and Validation) Plan

The parts of the project will be verified and validated upon delivery of every deliverable. The documents and software will be inspected to find defects and notes will be taken upon discovery of any defects.

7.3 Documentation (Library) Plan

All documentation will have a unique number. The documentation will have versions. All documentation will be stored in the Google Drive folder.

7.4 Quality Assurance Plan

At every step of the development process, the software will be tested to ensure that it meets requirements and does not have defects. All defects will be documented.

7.5 Reviews and Audits

The project documentation and software will be reviewed and updated on a weekly basis. The reviews will be conducted as a team and will be done in time to meet deadlines.

7.6 Problem Resolution Plans

Whenever a software problem is encountered during the project, it will first be documented so it can be searched for later in case a similar problem occurs. After documentation, the team will meet to discuss how the problem could be resolved. For smaller problems a single team member could be tasked with carrying out the proposed solution but for larger ones multiple team members will be involved in the solution.

7.7 Environment Management Plans

7.8 Process Improvement Plan

8. Additional Plans

9. Index

None

10. Rationale

None

11. Notes

None

12. Appendices

12.1 Schedule Tracking

Artifact or Deliverable	Who	Estimated	Actual	Difference
SRS - Business Domain	Leo Liu	October 7, 2020	October 7, 2020	0 hours
	Rihui Zheng	October 7, 2020	October 7, 2020	0 hours
	Md Abedin	October 7, 2020	October 7, 2020	0 hours
	Kyle Lin	October 7, 2020	October 7, 2020	0 hours
	Summary	October 7, 2020	October 7, 2020	0 hours

Artifact or Deliverable	Who	Estimated	Actual	Difference
SRS - Requirements	Leo Liu	October 7, 2020	October 7, 2020	0 hours
	Rihui Zheng	October 7, 2020	October 7, 2020	0 hours
	Md Abedin	October 7, 2020	October 7, 2020	0 hours
	Kyle Lin	October 7, 2020	October 7, 2020	0 hours
	Summary	October 7, 2020	October 7, 2020	0 hours

Artifact or Deliverable	Who	Estimated	Actual	Difference
SRS - Analysis - Complete	Leo Liu	October 7, 2020	October 7, 2020	0 hours
	Rihui Zheng	October 7, 2020	October 7, 2020	0 hours
	Md Abedin	October 7, 2020	October 7, 2020	0 hours
	Kyle Lin	October 7, 2020	October 7, 2020	0 hours

	Summary	October 7, 2020	October 7, 2020	0 hours
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Artifact or Deliverable	Who	Estimated	Actual	Difference
SRS - SPMP	Leo Liu	November 5, 2020	November 5, 2020	0 hours
	Rihui Zheng	November 5, 2020	November 5, 2020	0 hours
	Md Abedin	November 5, 2020	November 5, 2020	0 hours
	Kyle Lin	November 5, 2020	November 5, 2020	0 hours
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Cumulative

Who	Estimated	Actual	Difference
Leo Liu	November 5, 2020	November 5, 2020	0 hours
Rihui Zheng	November 5, 2020	November 5, 2020	0 hours
Md Abedin	November 5, 2020	November 5, 2020	0 hours
Kyle Lin	November 5, 2020	November 5, 2020	0 hours

12.2 Defect Tracking

Artifact or Deliverable	Who	Estimated	Actual	Difference
SRS - Business Domain	Leo Liu	October 7, 2020	October 7, 2020	0 hours
	Rihui Zheng	October 7, 2020	October 7, 2020	0 hours
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12.3 Gantt Chart / Microsoft Project Schedule

