COSC 4P02: Software Engineering II.

Group 9: Project Proposal

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Project 1: AI Powered Newsletter and Social Media Content Generator

Objectives and Problem Statement:

The problem we aim to solve is the lack of a streamlined, automated way for individuals and businesses to create personalized newsletters and social media posts tailored to specific preferences. Currently, users often spend hours manually collecting, curating, and formatting content to meet the needs of their audience.

Our project seeks to create a SaaS platform that simplifies this process. Objectives include:

1. Enabling users to define content preferences (topics, keywords, industries, etc.).

2. Automating content aggregation, summarization, and formatting for various platforms.

3. Offering flexible templates for newsletters and social media posts that align with branding.

4. Supporting automated scheduling for seamless publishing and delivery.

5. Providing advanced features like multi-language support and API integration for scalability.

Importance of the Project

- **Efficiency:** Automating content curation and formatting saves users valuable time and resources.

- **Scalability:** Businesses can consistently publish professional content at scale without needing additional manpower.

- **Customization:** The platform ensures users can deliver personalized content that resonates with their target audience.

Overall Project Description

This SaaS platform will:

1. **Custom Aggregate News:** Users input preferences like topics, keywords, or specific news sources. The system uses intelligent algorithms to gather relevant news.

2. **Summarize Content:** Leverages NLP or LLMs to condense articles into concise summaries suitable for newsletters or social posts.

3. **Provide Templates:** Users can design or choose from templates tailored to platform-specific requirements.

4. **Support Scheduling:** Automated delivery ensures timely dissemination of content.

5. **Enable Management:** A dashboard lets users manage preferences, monitor content, and view performance analytics.

<u>**Software Engineering Process**</u>

1. Sprint Planning and Task Assignment

- **Process:** The product backlog is prioritized, and tasks are divided into smaller groups. Each sprint will last two weeks, and tasks will be assigned to teams of 2-3 members.

- **Sprint Planning Meeting:**

  o **Purpose:** Define the sprint goal and break down tasks. Estimate the effort required for each task using story points.

  o **Roles:**

    ▪ **Product Owner (PO):** Outlines key objectives for the sprint.

    ▪ **Scrum Master (SM):** Facilitates the meeting and ensures alignment with Agile principles.

    ▪ **Development Team:** Provides input on feasibility and technical needs.

2. Sprint Execution and Weekly Stand-Ups

- **Process:** During the sprint, teams work on their assigned tasks with weekly stand-ups to discuss progress and challenges.

- **Weekly Scrum Meetings:**

  o **Purpose:** Ensure continuous progress and quick problem-solving.

  o **Roles:**

    ▪ **PO:** Available for clarifications if needed.

    ▪ **SM:** Ensures the team stays on track and addresses blockers.

    ▪ **Development Team:** Shares updates on progress and identifies areas needing support.

3. Sprint Review and Feedback

- **Process:** At the end of each sprint, completed tasks are reviewed and evaluated.

- **Sprint Review Meeting:**

  o **Purpose:** Demonstrate completed work and gather feedback from team members not directly involved in the task.

  o **Roles:**

    ▪ **PO:** Evaluates whether tasks meet user needs and project goals.

    ▪ **SM:** Moderates the session and facilitates feedback collection.

▪ **Development Team:** Presents deliverables and responds to feedback.

- **Feedback Implementation:** Teams are given an additional week to address feedback or refine deliverables as needed.

4. Retrospective and Reallocation

- **Process:** Reflect on the sprint to identify what went well and areas for improvement.

- **Sprint Retrospective Meeting:**

    o **Purpose:** Improve processes and ensure continuous learning.

    o **Roles:**

        ▪ **PO:** Shares insights on project alignment.

        ▪ **SM:** Facilitates discussions and suggests process improvements.

        ▪ **Development Team:** Identifies bottlenecks and suggests solutions.

- **Reallocation of Tasks:** For unfinished or challenging tasks, additional members are assigned to ensure timely completion.

5. Stakeholder Meetings (TA Meetings)

- **Process:** Stakeholders are updated throughout the process to review progress and provide input on the current status of the software.

- **Stakeholder Meetings:**

    o **Purpose:** Present progress, discuss reports, and ensure alignment with "business" goals.

    o **Roles:**

        ▪ **PO:** Leads the presentation and gathers stakeholder feedback.

        ▪ **SM:** Ensures the meeting stays focused and productive.

        ▪ **Development Team:** Provides technical details where necessary.

Tools

- **Programming Languages:** Python, HTML, CSS, and JavaScript.

- **NLP Models:** Hugging Face and/or Ollama.

- **Database:** PostgreSQL/MySQL for user data and content storage.

- **Project Management:** Teams for meetings, GitHub for files and reports.

GitHub Repository:

All project-related code, files, and reports can be found within the following GitHub Repository. Reports will also be submitted through Brightspace as requested.

https://github.com/JadenKBrock/4P02GroupProject

Meeting Times:

Group meetings will be held Tuesdays from 9 – 12pm. Meetings with the stakeholders will be scheduled later in the week, in a timeslot that everyone can attend. Makeup meetings may also be scheduled when tutorials are scheduled during the meeting period.

Project Timeline:

Important Dates/Windows	Scheduled Tasks/Reports/Deadlines
January 6th – January 12th	Project Proposal due January 12th
January 13th – January 19th	Release Planning Document due January 19th
January 20th – February 2nd	Sprint 1
February 3rd – February 16th	Sprint 2
February 17th – February 23rd	Condensed Sprint 3. Progress Report 1 due February 23rd
February 24th – March 9th	Sprint 4
March 10th – March 23rd	Sprint 5. Progress Report 2 due March 23rd
March 24th – April 13th	Finalize Software Release. Final Changes. Retrospective Meeting. Prepare for Final Presentation.
April 14th – April 25th	Final Presentation

Appendix A - Meeting Minutes:

January 9, 2025 – Meeting 1

Joined: Dea, Shijie, Dalton, Jaden, Nicholas, Thomas.
Missed the meeting: Chidera (due to account access issues, which have since been resolved).

- The group went over project options, and unanimously decided on Project 1.
    o Spoke about possible features that would be implemented.
- Decided and agreed on roles for the project:
    o Product owner: Dea
    o Scrum master: Jaden
    o Develop team: Dea, Jaden, Shije, Nicholas, Thomas, Dalton, Chidera
- Set up GitHub Repository (link above).
    o Set up select folders and files, and discussed any licensing files we might use throughout the project. These files and folders are subject to change.
- Decided on meeting times: Tuesdays 9-12 (excluding tutorial days).

- Spoke about the timeline for the project:
    - Divide tasks weekly/bi-weekly where we each task is assigned to groups of 2-3 people. Estimating 2-week deadline for each sprint.
        - Have regular check-ins through Microsoft Teams chat throughout the sprint. By each deadline, we will either:
            - Set up a testing group (members not working on the task) and get feedback on the iteration. Remainder of the sprint can be used to make changes based on this feedback.
            - Assign more team members to the unfinished task for completion.
- Next meeting: The group will divide the tasks and set up further deadlines. We will also start working on the first report (release planning document). Requirements, user stories, etc. An additional meeting will be scheduled with the TA once the document is finalized.