Concordia University

Department of Computer Science & Software Engineering

COMP 6841: Software Project Management

Powered Resume Builder

GROUP 22

Nishtha Nishtha: 40227755
Saloniben Dilipkumar Patel : 40219500
Vaishakhi Hiteshbhai Patel: 40233201
Jaymin Shantilal Suhagiya: 40232368

Github URL: https://github.com/saloni213/SOEN6841-Project

Feasibility Study

Introduction:

- This section sets the stage for the feasibility study by providing an overview of the Powered Resume Builder project and its objectives. It emphasizes the importance of assessing the technical, operational, and economic feasibility of the software solution.

Content:

Technical Feasibility:

- Evaluation of Technology Requirements: This involves a detailed assessment of the technology stack required for developing the Powered Resume Builder. It considers factors such as programming languages, frameworks, and infrastructure needed to support AI algorithms and other functionalities.
- Feasibility of Implementation: This evaluates whether the technical expertise and resources necessary for developing and deploying the software solution are available within the project scope. It also considers any potential technical challenges or constraints that may arise during implementation.

Operational Feasibility:

- Analysis of Operational Impact: This section examines how the implementation of the Powered Resume Builder will affect existing operational processes for both users and internal stakeholders. It considers aspects such as user adoption, training requirements, and scalability.
- Identification of Challenges and Benefits: Here, potential operational challenges and benefits associated with adopting and using the software solution are identified and analyzed. This includes considerations such as user experience, support needs, and the impact on organizational workflows.

Economic Feasibility:

- Estimation of Economic Viability: This involves conducting a cost-benefit analysis to determine whether the benefits of developing and implementing the Powered Resume Builder outweigh the associated costs. It considers factors such as development expenses, ongoing maintenance costs, potential revenue streams, and ROI projections.
- Consideration of Resource Availability: This evaluates whether the human and technological resources required for the project are available and

adequately allocated. It also includes allocating a contingency budget to account for unforeseen expenses and risks.

Explanation of Rationale:

- This section provides a summary of the feasibility assessment, highlighting key findings, assumptions, and conclusions derived from the analysis. It serves as a basis for decision-making and informs stakeholders about the viability of proceeding with the project.

Solution Proposal

Title: Comprehensive Software Solution Proposal

Objective: This proposal aims to present a comprehensive plan for the development and implementation of the Powered Resume Builder software solution, outlining its key features, functionalities, and benefits.

Content:

Solution Overview:

- Description of the Powered Resume Builder: The Powered Resume Builder is a sophisticated software solution designed to streamline the resume-building process for job seekers and employers. Leveraging advanced AI algorithms and intuitive design features, the software enables users to create professional resumes tailored to specific job requirements efficiently.

- Alignment with Identified Challenges: We will demonstrate how the Powered Resume Builder addresses the challenges identified in the Problem Identification and Market Analysis reports, emphasizing its relevance and significance in addressing critical pain points for users and stakeholders.

Key Features and Functionalities:

- Tailored Resumes for Specific Job Descriptions: The Powered Resume Builder analyzes job descriptions and user input to generate meticulously tailored resumes aligned with specific job requisites. Advanced AI algorithms ensure that resumes accurately reflect the qualifications and experiences desired by employers, increasing job seekers' chances of securing interviews and job offers.
- Time-Efficient Resume Creation Process: The software streamlines the resume-building process by automating repetitive tasks and providing users

with intuitive tools and templates. By expediting the creation of professional resumes, the software conserves users' valuable time and effort, allowing them to focus on other aspects of their job search endeavors.

- Efficient Resume Screening Process for Employers: The Powered Resume Builder equips employers with tools to streamline the resume screening process effectively. Standardized and well-structured resumes optimized for applicant tracking systems (ATS) enable employers to identify qualified candidates efficiently. Features such as keyword matching and content analysis facilitate targeted resume screening, saving employers time and resources in the recruitment process.

- Personalized and Professional Resumes: The software offers users access to a wide range of customizable templates, design options, and formatting features. Leveraging AI technology, the software provides personalized content suggestions and real-time editing assistance, ensuring that resumes are tailored to individual preferences and industry standards. This personalized approach enhances the professionalism and visual appeal of resumes, making them more compelling to recruiters and hiring managers.

- Alignment with Industry Trends and Needs: The Powered Resume Builder stays abreast of industry trends and user feedback, continuously refining its features and functionalities to meet the dynamic needs of the job market. By incorporating the latest advancements in AI, NLP, and user experience design, the software remains at the forefront of resume-building innovation, providing users with cutting-edge tools to succeed in their job search endeavors.

Benefits and Impact:

- Enhanced Efficiency and Effectiveness: The Powered Resume Builder enhances the efficiency and effectiveness of the resume-building process for both job seekers and employers. By addressing critical pain points and streamlining workflows, the software empowers users to create professional resumes tailored to specific job requirements quickly and effortlessly.
- Improved Job Seeker Outcomes: Job seekers using the Powered Resume Builder experience increased success in securing interviews and job offers. AI-optimized resumes accentuate their qualifications and experiences, making them more competitive in the job market and enhancing their career prospects.
- Streamlined Recruitment Process for Employers: Employers benefit from a streamlined recruitment process facilitated by the Powered Resume Builder. Standardized and well-structured resumes enable efficient resume screening, saving time and resources in candidate selection and recruitment.

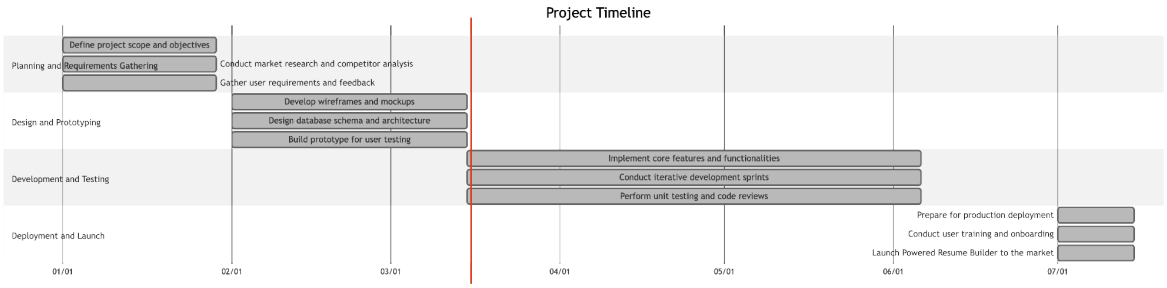
- Alignment with Business Goals: The Powered Resume Builder aligns with the broader business goals of enhancing user satisfaction, driving user engagement, and achieving sustainable growth. By delivering value to users and stakeholders, the software contributes to the long-term success and viability of the organization.

Project Plan (WBS)

Title: Software Solution Project Plan

Objective: Develop a detailed project plan that includes timelines, milestones, and deliverables for the development and implementation of the Powered Resume Builder software solution.
Content:

- Project Timeline:
  - Phase 1: Planning and Requirements Gathering
    - Define project scope and objectives
    - Conduct market research and competitor analysis
    - Gather user requirements and feedback
    - Duration: 4 weeks
  - Phase 2: Design and Prototyping
    - Develop wireframes and mockups
    - Design database schema and architecture
    - Build prototype for user testing
    - Duration: 6 weeks
  - Phase 3: Development and Testing
    - Implement core features and functionalities
    - Conduct iterative development sprints
    - Perform unit testing and code reviews
    - Duration: 12 weeks
  - Phase 4: Deployment and Launch
    - Prepare for production deployment
    - Conduct user training and onboarding
    - Launch Powered Resume Builder to the market
    - Duration: 2 weeks



❖ Milestones and Deliverables:

➢ Milestone 1: Project Kickoff
- Deliverable: Project charter and kickoff meeting
- Target Date: 1st March 2024

➢ Milestone 2: Prototype Completion
- Deliverable: Functional prototype for user testing
- Target Date: 15 April 2024

➢ Milestone 3: Beta Release
- Deliverable: Beta version of the Powered Resume Builder
- Target Date: 15 July 2024

➢ Milestone 4: Production Launch
- Deliverable: Fully deployed and launched software solution
- Target Date: 1 August 2024

❖ Resource Allocation (20 points):

➢ Phase 1: Planning and Requirements Gathering
- Human Resources:
  - Project Manager: Leads planning efforts, coordinates stakeholder meetings, and oversees requirements gathering.
  - Business Analyst: Conducts market research, collects user feedback, and defines project scope.
- Technological Resources:
  - Collaboration Tools: Utilized for virtual meetings, document sharing, and communication among team members.

➢ Phase 2: Design and Prototyping
- Human Resources:
  - UI/UX Designer: Designs wireframes, prototypes, and user interfaces based on gathered requirements.

        - Frontend Developer: Implements frontend components based on design specifications.
        - Database Architect: Designs database schema and ensures data integrity.
    - Technological Resources:
        - Design Software (e.g., Adobe XD, Sketch): Used for wireframing and designing user interfaces.
        - Prototyping Tools (e.g., InVision, Figma): Utilized for creating interactive prototypes for user testing.

- Phase 3: Development and Testing
    - Human Resources:
        - Backend Developers: Implement core features, APIs, and business logic.
        - Frontend Developers: Develop user interfaces and integrate with backend functionality.
        - Quality Assurance/Testers: Conduct comprehensive testing, including unit testing, integration testing, and user acceptance testing.
    - Technological Resources:
        - Development Environments (e.g., IDEs, version control systems): Utilized for coding, collaboration, and version control.
        - Testing Tools (e.g., Selenium, JUnit): Used for automated testing and test case management.

- Phase 4: Deployment and Launch
    - Human Resources:
        - DevOps Engineers: Prepare deployment environments, manage deployment processes, and ensure system stability.
        - Training Specialists: Develop training materials and conduct user training sessions.
    - Technological Resources:
        - Deployment Tools (e.g., Docker, Jenkins): Used for automating deployment processes and ensuring consistency across environments.
        - Training Platforms (e.g., Learning Management Systems): Utilised for hosting training materials and conducting virtual training sessions.

❖ Dependencies:

- Market Research Results needed for Requirements Gathering

- ➢ Prototype Feedback required for Development
- ➢ User Testing Results required for Iterative Development

Risk Assessment and Mitigation Plan

Objective: The Risk Assessment and Mitigation Plan aims to identify potential challenges and uncertainties associated with the development and implementation of the Powered Resume Builder software solution. By conducting a thorough risk assessment and developing effective mitigation strategies, the project team can minimise the impact of risks and ensure the successful execution of the project.

Content:

1. Risk Identification:
In the development and implementation of the Powered Resume Builder software solution, various risks may emerge, impacting different aspects of the project. These risks are categorized into technical, operational, and economic domains to comprehensively address potential challenges.

Technical Risks:

- Integration Challenges: There is a risk that integrating different modules or components of the software may encounter difficulties due to incompatible technologies or lack of interoperability. This could lead to delays in project timelines and increased development costs.
- Scalability Issues: If the architecture and infrastructure of the software are not designed to handle increasing user demand, scalability issues may arise. This could result in performance degradation or system failures during peak usage periods.
- Security Vulnerabilities: There is a risk of security breaches or data leaks if adequate measures are not implemented to safeguard user data. This could not only damage the reputation of the Powered Resume Builder but also lead to legal consequences and financial losses.

Operational Risks:

- Resource Constraints: Insufficient allocation of human and technological resources may hinder the progress of the project. This could result in missed deadlines, compromised quality of deliverables, and increased project costs.
- Communication Breakdown: Poor communication among team members, stakeholders, or external vendors could lead to misunderstandings, conflicts, and delays in project execution. This may affect collaboration and coordination efforts, impacting overall project efficiency.

- Scope Creep: There is a risk of the project scope expanding beyond the initial requirements, leading to additional development efforts, increased costs, and delays in project delivery. Failure to manage scope creep effectively could result in project failure or dissatisfaction among stakeholders.

Economic Risks:

- Budget Overruns: Unexpected expenses, inaccurate budget estimates, or changes in project scope may lead to budget overruns. This could strain project finances, necessitate reallocation of funds from other areas, or require additional funding to complete the project successfully.
- Market Volatility: Economic fluctuations or shifts in market trends may impact the demand for the Powered Resume Builder or the availability of funding. This uncertainty could affect project viability, investment decisions, and revenue projections.
- Regulatory Compliance: Failure to comply with relevant laws, regulations, or industry standards may result in legal consequences, fines, or penalties. This risk underscores the importance of adhering to data protection regulations, intellectual property laws, and industry best practices.

2. Risk Impact Analysis :

Each identified risk is assessed based on its potential impact on the project, considering severity and likelihood.

- Integration Challenges:
    - Impact: High
    - Likelihood: Medium
    - Mitigation: Conduct thorough compatibility testing and implement standardized integration protocols. Engage with third-party vendors early in the process to address potential issues proactively.
- Resource Constraints:
    - Impact: Medium
    - Likelihood: High
    - Mitigation: Regularly review resource allocation and project progress to identify potential bottlenecks early. Prioritize tasks and allocate resources effectively to optimize resource utilization.
- Budget Overruns:
    - Impact: High
    - Likelihood: Medium

- Mitigation: Implement stringent budget monitoring mechanisms and conduct regular financial reviews. Identify cost-saving opportunities and prioritize expenditures based on project priorities to mitigate the risk of budget overruns.

3. Risk Mitigation Strategies:

To mitigate the identified risks, proactive strategies are formulated to minimize their impact and implement contingency plans where necessary.

- Integration Challenges:
  - Strategy: Engage in continuous communication with third-party vendors and conduct thorough testing at each integration phase. Develop comprehensive documentation and guidelines for integration processes to ensure consistency and compatibility.
  - Contingency Plan: Develop alternative integration approaches and allocate additional resources for troubleshooting. Establish backup plans to address critical dependencies and minimize disruption to project timelines.
- Resource Constraints:
  - Strategy: Regularly assess project progress and resource availability to identify potential bottlenecks early. Implement resource reallocation strategies and explore outsourcing options if necessary to address resource shortages.
  - Contingency Plan: Establish communication channels for resource allocation adjustments and prioritize critical tasks to mitigate the impact of resource constraints on project delivery.
- Budget Overruns:
  - Strategy: Implement stringent budget monitoring mechanisms and conduct regular financial reviews. Identify cost-saving opportunities such as renegotiating vendor contracts or optimizing resource allocation to stay within budgetary constraints.
  - Contingency Plan: Establish a contingency fund to address unforeseen expenses and prioritize expenditures based on project priorities. Develop criteria for budget adjustments and seek approval from relevant stakeholders for any deviations from the original budget plan.

Budgeting

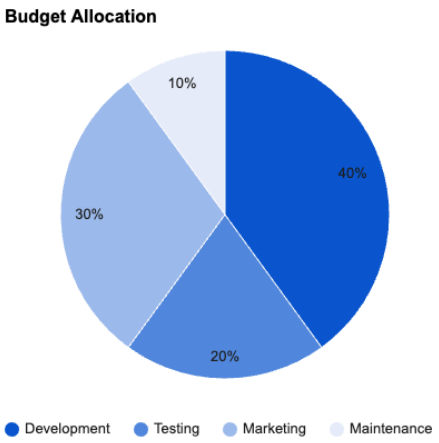
Objective: The Software Development Budget aims to estimate the financial resources required for the entire lifecycle of developing the Powered Resume Builder software. This involves breaking down the budget into various categories, estimating costs associated with resources, and allocating funds accordingly. Additionally, a

contingency budget is allocated to address unforeseen expenses that may arise during the project.

1. Cost Categories:
    - Breakdown of the Budget: This involves a comprehensive breakdown of the overall budget into specific categories crucial for the entire software development lifecycle. Each category represents a distinct aspect of the project and requires financial allocation. The breakdown typically includes:
        - Development: Funds allocated for the actual creation of the software, including coding, design, and integration of features.
        - Testing: Budget for quality assurance processes, including testing environments, tools, and personnel.
        - Marketing: Resources designated for promoting the software solution to target audiences, encompassing advertising, branding, and promotional activities.
        - Ongoing Maintenance: Funds reserved for post-launch support, updates, bug fixes, and continuous improvement efforts.
    - The allocation to each category is determined based on the project's requirements, priorities, and anticipated costs associated with each phase.
    - Allocation of Funds: Each category receives a predetermined percentage of the total budget, reflecting its importance and contribution to the project's success. For instance:
        - Development: 40% of the total budget
        - Testing: 20% of the total budget
        - Marketing: 30% of the total budget
        - Ongoing Maintenance: 10% of the total budget
    - This distribution ensures that adequate financial resources are allocated to critical project phases while maintaining a balanced approach to budget allocation.

Effort Type	Hours	Costs/Hour	Costs
Development	1200	$170	$204,000
Testing	330	$120	$39,600
Marketing	520	$50	$26,000

Ongoing Maintenance	230	$75	$17,250
Total Costs	-	-	$221,250



2. Resource Costing:
   - Estimation of Costs:
     - Human Resources: This involves estimating costs related to personnel involved in the project, including salaries, wages, benefits, training, and any other associated expenses. Costs may vary depending on the roles and skill levels required for development, testing, marketing, and maintenance.
     - Technology: Estimating technology costs encompasses expenses associated with software tools, licenses, hardware infrastructure, cloud services, and any other technological resources essential for the project. Costs may include one-time purchases, subscriptions, or ongoing usage fees.
     - External Services: Estimating costs for external services involves identifying and budgeting for any outsourced tasks or specialized services required during the project. This may include hiring consultants, contractors, or third-party vendors for specific expertise or tasks such as design, development, testing, or marketing.
   - Detailed Calculation: Each cost component undergoes a detailed calculation process to ensure accuracy and completeness. Factors such as market rates, resource availability, project timelines, and potential risks are considered during cost estimation. This involves researching industry benchmarks, obtaining quotes from vendors, and

consulting with relevant stakeholders to arrive at realistic cost projections.

3. Contingency Budget:
    - Allocation: A contingency budget equivalent to 15% of the total budget is allocated to address unforeseen expenses or mitigate risks throughout the project lifecycle. This additional budget acts as a buffer to accommodate unexpected costs and deviations from the original plan.
    - Explanation: The rationale behind the contingency budget lies in acknowledging the inherent uncertainties and risks associated with software development projects. Despite careful planning and estimation, unforeseen challenges such as scope changes, technical complexities, resource constraints, or external factors may arise, impacting project costs. The contingency budget provides flexibility and resilience to adapt to these changes without compromising project quality or timelines.
    - Justification: The contingency budget is justified based on the principle of prudent financial management and risk mitigation. It serves as a proactive measure to safeguard against potential cost overruns, project delays, or other adverse impacts that may arise during the project execution. By allocating a portion of the budget to contingency, the project team demonstrates a commitment to addressing uncertainties responsibly and ensuring project success within defined budgetary constraints.

By meticulously planning and allocating resources according to these budgeting principles, the Powered Resume Builder project can effectively manage its financial resources, mitigate risks, and ensure the successful development and implementation of the software solution within the specified budget constraints.

Reference:

1. “AI Revolutionizes the Job Search: Almost 50,000 Job Seekers Used AI for Resume and Cover Letter Writing in March.” Accessed: Feb. 11, 2024. [Online]. Available: https://kickresume.prowly.com/238451-ai-revolutionizes-the-job-search-almost-50000-job-seekers-used-ai-for-resume-and-cover-letter-writing-in-march
2. P. S. Tan, “Development of interactive resume / Tan Phaik See,” undergraduates, Universiti Malaya, 2005. Accessed: Feb. 11, 2024. [Online]. Available: http://studentsrepo.um.edu.my/13004/
3. “Free Online Resume Maker | Create a Perfect Resume in 5 Minutes,” Dochipo. Accessed: Feb. 11, 2024. [Online]. Available: https://www.dochipo.com/resume-maker/
4. R. Tyagi, “Resume Builder Application,” *International Journal for Research in Applied Science and Engineering Technology*, vol. 8, pp. 14–18, May 2020, doi: 10.22214/ijraset.2020.5003.
5. “Searches For AI Resume Builders Increase 567 Percent.” Accessed: Feb. 11, 2024. [Online]. Available: https://www.valuewalk.com/searches-for-ai-resume-builders-increase-567-percent/
6. I. Wu, K. Wayne, S. Lakka, and T. Rai, “Pro-Resume: The Infographic Resume Builder”.
7. A. Mulla, A. Khare, K. Agrawal, and A. Naik, “Resume Builder Application with Automated Job Prediction,” pp. 128–134, 2023, doi: 10.48047/nq.2023.21.01.NQ20008.
8. A. M. Ahmed A. Sharma, D. Sharma, F., “Résumé builder over rejuvenated AI features in website development,” in *Smart Computing*, CRC Press, 2021.
9. T. B. Khaled, “Web-Application on CV-Building”.
10. “Web-based resume builder system for university students”.