COMMERCE & BUSINESS ADMINISTRATION
COMPUTING STUDIES & INFORMATION SYSTEMS
COMPUTER AND INFORMATION SYSTEMS (PBD)

CSIS 4495-050: APPLIED RESEARCH PROJECT

Project Proposal:

End-to-End Data Engineering Solution for HR Analytics

Student Name: Jay Clark Bermudez - 300380540

Instructor: Dr. Bambang Sarif

NEW WESTMINSTER/BC
FALL/2025

Work Hours

Student Name: Jay Clark Bermudez

Date	Number of Hours	Description of Work Done
09/09/2025	1	Further research about the topic (ResourceMatch)
09/09/2025	0.5	Possible tech stacks to be used (ResourceMatch)
09/10/2025	2	Adding external partners, tech requirements, and the project timeline (ResourceMatch)
09/11/2025	0.5	Update document format (ResourceMatch)
09/13/2025	1	Initial research on the new project
09/14/2025	1	Update project Timeline for the new project
09/15/2025	0.5	Finalize project proposal for submission
09/21/2025	1	Changed PowerBI to custom web App on methodology and timelines
09/22/2025	1	Update methodology figures and description
09/23/2025	2	Specify roles and responsibilities, update milestones and deliverables
09/24/2025	1	Make changes in methodology figures and texts
09/24/2025	2	Final updates in the project plan and timelines before submission

Work Hours

Our team initially selected the ResourceMatch project from the Riipen platform. During the first week, I conducted a preliminary research on the project, the company, and its website. I also reviewed different technologies that could be applied and drafted the methodology for the web application component of our team's initial project proposal. In addition, I developed the project plan, timeline, milestones, and Gantt chart for ResourceMatch. However, as we learned more about the project and the employer, our team had several concerns. After discussion and with our advisor's approval, we decided to change our project.

In the second week, we shifted to a more data-oriented project that would allow us to work with both familiar and unfamiliar technologies while addressing a real problem in the workforce. Based on this reasoning, our group initiated the "End-to-End Data Engineering Solution for HR Analytics" project. For this new direction, I researched the Human Resource domain, explored current technologies in the field, and identified possible implementation approaches. I then created the first iteration of our new project proposal, including the updated project plan, timeline, and milestones, which I refined and submitted through Blackboard.

After receiving feedback from our advisor, we identified issues with the formatting and missing content, such as proper references for the literature survey, more details for the deliverables, and clearer definitions of each team member's roles and responsibilities. Our initial plan also used Power BI for visualizations, but our advisor suggested that its scope might be too narrow. As a result, we decided to build a custom web application for the visualizations.

Based on this feedback, I revised the document by updating the overall document format, adjusting the format of the figures, and restructuring the project plan and timeline into tabular sections with corresponding deliverables. I also refined our system architecture by creating an overall design and dividing it into two parts: the data engineering pipeline and the web application. Furthermore, I clarified the description of each team member's roles and responsibilities.

With these updates, I polished the Methodology, Project Plan, and Timeline sections in the second iteration of our project proposal.