Development Plan

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BBB (Better Business Bureau)
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1. Introduction

BBB is a data company. It is imperative that the data in the system be trustworthy and accurate. Unfortunately, collections of data (especially those as large and changeable as those managed by the BBB) can get faulty and unreliable. People visiting the BBB's web pages are looking for information on businesses. If that information is not accurate and informational, BBB loses trust in the marketplace. This project is about finding and implementing effective and powerful methods to improve data quality at the BBB, and thus improve the user experience for BBB consumers. In the past this kind of data management has often been done by hand. With our help, BBB hopes to convert that lengthy process to a more automatic and efficient process.

2. Objectives

The main objectives of this plan are as follows:

2.1. Project objective

- Find and implement effective and powerful methods to improve data quality at the BBB, and thus improve the user experience for BBB consumers.

2.2. Major activities

1. Interviews with client contacts, "hands on" access to data sources and systems where possible.
2. Discovering and learning about the problems and solutions around data quality at the BBB, and prepare a RAD.
3. Strategic research and planning process that's going on at an international level among many regional BBB organizations and the IABBB.
4. Design, build, and use a setup that supports both the types of databases used by the client and the building of solutions for types of known problems in data.
5. Design, implement, and test data access modules and data correction modules and deliver core algorithms.
6. Deliver document patterns and types of problems observed during the project. Recommend solutions that are transferrable across the BBB system.

3. Definitions and Acronyms

Definitions or references to all the definitions of the special terms and acronyms used within this document.

- ❖ **BBB** - Better Business Bureau
- ❖ **Tranche** - is a French word meaning "slice" or "portion." We use tranche in this document to refer to the sample of data taken from the larger database for easier testing and experimenting.
- ❖ **RAD (Requirements analysis document)** - document that includes full description of all types of data and databases to be included in the project, together with an analysis of all (or most, as possible) of the known problems in the data, together with typical downstream consequences (business and technical) associated with each type of problem.

4. Scope

- Project scope
  - o The project includes improving data quality at the BBB, and thus improving the user experience for BBB customers. By the end of the semester (December), the BBB, will oversee these tasks.
- Deliverables
  - o Deliverables for this project includes an automate system to improve the data quality at the BBB with detailed documentations.
- Acceptance criteria
  - o We will be working with the BBB that is based in Minnesota, which servers a large proportion of the midwestern US.
  - o We will also participate in a much larger strategic research and planning process among many regional BBB organizations to set up a framework for approaching data management.
  - o We will share findings and make recommendations for BBB organizations that will greatly influence this new framework.
- Constraints
  - o Time limitation: The project has a hard submission date of 12/09/22.

5. Methodology

Our team will adopt the agile development methodology. Agile methodology is a way to manage a project by breaking it up into several phases. It involves constant collaboration

with clients at BBB and continuous improvement at every stage. In our case, we are implementing core algorithm and doing unit & integration testing throughout the project.

6. Environment

The software development will be conducted on the Data Divas personal computers in the Carkoski CS space from Aug 23, 2022, to Dec 9, 2022.

7. Resources

7.1. Collaborators

- Our project has four team members
  - ➢ Wengel Tsegaselassie – Team Lead
  - ➢ Wen Sun – Testing Lead
  - ➢ Mohammad Ahnaf Khalil – Documentation Lead
  - ➢ Medhanit Asrat Bekele – Lead Analyst
- Each team member will use their personal computer throughout the project for development.

7.2. Software used

- PyCharm and SQL Management Studio for development
- GitHub and OneDrive for version control
- Microsoft teams for communication

7.3. Trainings needed

- SQL
- Python (re, requests, pandas, and request packages)
- Regular expressions

8. Project Documentation

List of the documents that will be developed for the project
1. Timeline and Milestones – is a document that uses milestones to divide project work into phases for easy monitoring. This document includes a list of critical dates and actions included in the project.

2. Requirements Analysis Document - document that includes full description of all types of data and databases to be included in the project, together with an analysis of all (or most, as possible) of the known problems in the data, together with typical downstream consequences (business and technical) associated with each type of problem.
3. Test plan document - document used to evaluate the code to determine whether it does what we expect it to do. Our test plan documents the testing strategies that will be used to ensure testing activities are effectively implemented within the Data Divas team.
4. Development plan- document that describes the strategy, plan and blueprint for the Project including any key milestone dates under the Project Development Documents and the estimated date of Practical Completion.
5. Project closure report - formalizes the closure of the project, provides confirmation that the project has met the criteria for success and requests the signature of agreement of the client to close the project.

9. Development Schedule

TASK	START DATE	END DATE	ASSIGNED TO
Getting tranche of data	09/06/2022	09/08/2022	All
Evaluate data provided by client	09/10/2022	09/14/2022	All
Development Plan	09/25/2022	10/02/2022	Wen, Wengel
Testing Plan	09/25/2022	10/02/2022	Wen, Medhanit
Requirement Analysis Document	09/25/2022	10/02/2022	Khalil, Wengel
Unit Testing	10/03/2022	10/05/2022	Wen, Medhanit
Integration testing	10/05/2022	10/08/2022	Wen, Medhanit
Partial Solution to data problems 1	10/05/2022	10/11/2022	All
Unit Testing	10/11/2022	10/14/2022	Wengel, Medhanit
Integration Testing	10/17/2022	10/21/2022	Wengel, Medhanit
Data Quality Development Environment	10/12/2022	10/23/2022	Khalil, Wen

(Implementation of environment)			
Data Quality Development Environment (Testing of environment)	10/24/2022	11/02/2022	Wengel, Medhanit
Increase size of tranche	10/24/2022	10/24/2022	Wen
Unit Testing	10/24/2022	10/28/2022	Khalil, Wen
Integration Testing	10/31/2022	11/04/2022	Khalil, Wen
Partial Solution to data problems 2	11/04/2022	11/09/2022	All
Unit Testing	11/10/2022	11/15/2022	Wengel, Medhanit
Integration Testing	11/15/2022	11/18/2022	Wengel, Medhanit
Documentation of testing procedure	10/08/2022	11/19/2022	All

10. Milestones

Deliverables	Priority
Requirements Analysis Document	High
Data quality development environment	High
Core algorithms	High
Documentation	Medium

11. Reporting & Communication

We, Data Diva's, have regular meetings with our client, Ryan Sharp, and subject matter expert, Eli Johnson. These communication takes place weekly for 1 hour. In these meetings we discuss our progress on the project as well as any issues we have encountered. We submit all the deliverables to our client via email byclients are to write a 'Requirements Analysis Document'. This included a full description of all types of data and databases to be used. Also, includes most of the known problems as well as their

consequences associated with each type of problem. The next deliverable is to create a data quality development environment that includes testing tools. Third deliverable would be to write a core algorithm that solves specific data quality issues. Moreover, adding clear documentation of the date specified in our timeline and milestones document. In the case of not being able to complete a deliverable by the intended date, we will renegotiate our timeline with our client.

12. Risk Management

12.1. Schedule Risks

We have a timeline and milestones document to help us plan and meeting those planned deadlines plays a vital role in the successful completion of a project. But some circumstances might cause lagging behind schedule. Those circumstances could be:

Risk	Mitigation Techniques
Inability to complete tasks at the estimated time	Track the progress of individuals on daily basis
Inaccurate time and effort estimation	Use expert judgment techniques to assure the accuracy of estimates
Inability to foresee the total scope	Create work breakdown structure for your project

12.2. Operational Risks

Operational risks are associated with the day-to-day activities of the project. Operational risks may eventually lead to improper process implementation or a failed system.

Risk	Mitigation Techniques
Failure to address priority conflicts	Clearly prioritize requirements by communicating regularly with client
Insufficient resources	Control and track whether the project activities are progressing as planned
No communication in team	Conduct team building exercises and promote open communication

12.3. Technical Risks

Technical Risks are risks associated with uncertainty and magnitude of difference between actual and optimal design of processes affecting the level of performance necessary to meet the clients' expectations and technical requirements.

Risk	Mitigation Techniques
Defects discovered at a late stage	Make plans to quickly fix defects and prioritize test code.
Lack of expertise in the required tech skills	Allocate time for research and training to build expertise

13. Approvals

Approver/Reviewer	Role	Date of Approval/ Reviewal
Ryan Sharp	Main Client	
Eli Johnson	Technical Specialist	
Lin Chase	Faculty Coach	