BSE20-25

**LABOR OPTIMIZATION SYSTEM**

Project Plan

**GROUP MEMBERS:**

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Names** | **Registration Number** | **Signature** |
| 1 | MUWONGE EMMANUEL | 16/U/7842/PS |  |
| 2 | KISEMBO ERINAH TUMUSIIME | 16/U/6168/PS |  |
| 3 | MUTEBI WILSON | 16/U/7751/EVE |  |
| 4 | SUNDAY DEOGRATIAS | 16/U/11792/PS |  |

**Date: March, 03rd 2020**

# Project Scope

Labor optimization has been an issue for as long as individuals are being employed. Most current systems in Uganda present the problem of labor underutilization and over utilization in many organizations.

This can be solved by having a correct estimation of the workload and correct allocation of labor in organizations.

The labor optimization system will have machine learning model predicting workload so that workforce and labor is distributed fairly. It focuses on the company, stakeholders, organizations record of daily operations and external conditions like weather condition which allow for accurate prediction of future work.

# Project Activities

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| --- | --- | --- | --- | --- | --- | --- | --- |
| # | Activity | Assigned to | Start Date | End Date | Duration (Day) | Deliverable | Challenges |
| 1 | Setting up required software environment | | | | | | |
| 1.1 | Anaconda and Jupiter Notebook | All Members | 02nd/03/2020 | 03rd/03/2020 | 1 | Working Python Environment for data science |  |
| 1.2 | Django Framework | All Members | 03rd/03/2020 | 04th/03/2020 | 11 | Working Django Environment |  |
| 2 | Git hub repo creation and update | Muwonge Emmanuel | 04th/03/2020 | 05th/03/2020 |  | Up to date git hub repo |  |
| 3. | Database design | Erinah Kisembo | 05th/03/2020 | 07th/03/2020 | 2 | SQL file and DB Tables and data in MySQL |  |
| 4 | User Interface Design | Erinah Kisembo and Mutebi Wilson | 09th/03/2020 | 11th/03/2020 | 2 | User Interface |  |
| 5. | Module Programming | | | | | | |
| 5.1 | Building Machine learning Model | Muwonge Emmanuel and Mutebi Wilson | 11th/03/2020 | 24th/03/2020 | 13 | Predictive Model | Inadequate PC resources |
| 5.2 | Analyzing Dataset | Sunday Deogratias and Erinah Kisembo | 11th/03/2020 | 24th/03/2020 | 13 | Visualization | Unclean data |
| 5.3 | Embedding the predictive model in an API | Muwonge Emmanuel | 24th/03/2020 | 30th/04/2020 | 6 | API |  |
| 5.4 | Building the Web App | All Members | 24th/03/2020 | 04th/04/2020 | 10 | Web App |  |
| 6 | System testing and bug fixes | All Members | 04th/04/2020 | 07th/04/2020 | 3 | Test case document, results of bugs identified and strategy to fix them |  |
| 7 | User Manual Writing | All Members | 07th/04/2020 | 10th/04/2020 | 3 | User Manual |  |
| 8 | Hosting | All Members | 10th/04/2020 | 11th/04/2020 | 1 | Accessible and working URL |  |