**Project Scope Document**

Project Summary

Life expectancy is the statistical prediction of the amount of years a human will live based on actuarial data. Life expectancy of humans differs from nation to nation. Generally, developed nations have higher average life expectancy as compared to underdeveloped and developing nations. It is dependent on personal, social as well as demographic factors. The project aims at creating a machine learning model which will predict the average life expectancy of humans in different countries based on the data provided to it. Life expectancy provides us an insight of the current development rate of a nation, the proper disposal of healthcare facilities in the nations. It will help to determine the progress rate of a nation.

Life expectancy has a number of uses. It is widely useful in the financial world. It is used by individuals for retirement and pension planning. It is a significant factor considered by insurance companies for determining life insurance premiums.

Life expectancy affects the per capita income, GDP and in turn the economic growth of a country. The life expectancy of a nation and its development are interdependent. Thus, the project will lead to a better understanding of the connection between various factors affecting life expectancy and how the changes in these factors affect the life expectancy. A clear understanding of these concepts will help in making changes in different systems of the nation leading to its development.

Project Requirements

* Project Kickoff Template
* Well established connection with the resources used for project development
* Proper framework for project development
* Relevant Datasets for project initiation
* A platform for project execution

Functional Requirements

* The model should predict the life expectancy based on the given inputs.
* The webpage should be integrated with the ML model.
* The web page should display the average life expectancy of the required country.

Technical Requirements

* The model will provide good accuracy as the data will be collected from WHO.
* The webpage will be available 24x7.
* The model will be very reliable as it will be feeded with correct previous data.

Software Requirements

* Operating System
* IBM Cloud Platform
* IBM Watson Studio
* Node-RED

Project Deliverables

* Project Kickoff Template
* IBM account
* Node-RED starter application
* IBM service
* ML Model using dataset
* Website Model using Node-RED
* Node-RED Integration with ML Model

Project Team

Individual

Project Schedule

|  |  |  |  |
| --- | --- | --- | --- |
| Task Name | Duration | Start Date | End Date |
| Project kickoff template | 1 day | 19/05/2020 | 20/05/2020 |
| Set up of development environment | 1 day | 20/05/2020 | 21/05/2020 |
| Creation of IBM account | 0.5 day | 21/05/2020 | 21/05/2020 |
| Creation of Node-RED starter application | 1 day | 22/05/2020 | 23/05/2020 |
| Exploration of IBM Watson Usecases | 0.5 day | 23/05/2020 | 23/05/2020 |
| Exploration of IBM Watson ML | 3 days | 23/05/2020 | 25/05/2020 |
| Building own model in IBM Watson Studio | 2 days | 26/05/2020 | 28/05/2020 |
| Automating my model | 1 day | 28/05/2020 | 29/05/2020 |
| Collecting dataset for project | 0.5 day | 29/05/2020 | 29/05/2020 |
| Creating IBM Cloud Service | 1 day | 29/05/2020 | 30/05/2020 |
| Creating Watson Studio Project | 1 day | 30/05/2020 | 31/05/2020 |
| Configuring Watson Studio | 0.5 day | 31/05/2020 | 31/05/2020 |
| Creating ML service | 0.5 day | 31/05/2020 | 31/05/2020 |
| Create A Jupyter Notebook In IBM Watson And Import Data | 0.5 day | 01/06/2020 | 01/06/2020 |
| Build A Machine Learning Model And Create Endpoints For Node-RED Integration | 2 days | 02/06/2020 | 04/06/2020 |
| Build Node-RED Flow To Integrate ML Services | 2 days | 04/06/2020 | 07/06/2020 |
| Collecting dataset for project | 0.5 day | 07/06/2020 | 07/06/2020 |
| Creating IBM Cloud Service | 1 day | 08/06/2020 | 09/06/2020 |
| Creating Watson Studio Project | 1 day | 09/06/2020 | 10/06/2020 |
| Configuring Watson Studio | 0.5 day | 10/06/2020 | 10/06/2020 |
| Creating ML service | 0.5 day | 10/06/2020 | 10/06/2020 |
| Import Dataset And Create AUTO AI Experiment | 1 day | 11/06/2020 | 12/06/2020 |
| Build Node-RED Flow To Integrate AutoAI | 1 day | 11/06/2020 | 12/06/2020 |