**Project Charter Document**



**Project Name:** Efficient Inventory Management with LLM .

**Department:** Retail

**Focus Area:** Market Analysis

**Product/Process:** Data Scientist



**Prepared By**

|  |  |
| --- | --- |
| **Document Owner(s)** | **Project/Organization Role** |
| Naveen Kumar V P | Trainee/Intern |
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**Project Charter Version Control**

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| --- | --- | --- | --- |
| **Version** | **Date** | **Author** | **Change Description** |
| 1.0 | 18/03/2024 | Naveen Kumar V P | Document created |
| 2.0 | 21/04/2024 | Naveen Kumar V P | Final Documentation |

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# PROJECT CHARTER PURPOSE

The project charter defines the scope, objectives, and overall approach for the work to be completed. It is a critical element for initiating, planning, executing, controlling, and assessing the project. It should be the single point of reference on the project for project goals and objectives, scope, organization, estimates, work plan, and budget. In addition, it serves as a contract between the Project Team and the Project Sponsors, stating what will be delivered according to the budget, time constraints, risks, resources, and standards agreed upon for the project.



# PROJECT EXECUTIVE SUMMARY

* Project goals
* Objectives
  + Data prepossessing
* Scope
* Assumptions
* Risks
* Costs
* Timeline
* Approach
* Organization



# PROJECT OVERVIEW



# PROJECT SCOPE

## Goals and Objectives

|  |  |
| --- | --- |
| **Goals** | **Objectives** |
| * To build a chat-bot where the bot must give correct response to the query. | * Minimize the dependency on tech team for Data Retrieval. * Improved data accessibility * Increased efficiency |

## Project Deliverables

|  |  |
| --- | --- |
| **Milestone** | **Deliverable** |
| * Identifying Constraints and design the project architecture, explore various public forums to collect relevant data, Data Preparation. | * Deliverable 1.1—Identifying Constraints and design the project architecture. * Deliverable 1.2—Explore various public forums to collect relevant data. * Deliverable 1.3— Data Preparation |
| * Model Building for Efficiency inventory management with LLM and Recommendation | * Deliverable 2.1— LLM model with Tapex /Tapas model and lama2 model |
| * Model Evaluation, tuning and insights, Deployment | * Deliverable 3.1— Model Evaluation, tuning and insights. * Deliverable 3. 2— Deployment |
| * Show case and review, Final Presentation and documentation, Handover and KT. | * Deliverable4.1 – show case and review * Deliverable4.2 – Final Presentation and documentation * Deliverable4.3 – Handover and KT |

## Deliverables Out of Scope

* designs
* mobile app

## Project Duration (start date: 18/03/2024 End date: 19/04/2024)

|  |  |  |  |
| --- | --- | --- | --- |
| **Project Milestone** | **Date Estimate** | **Deliverable(s) Included** | **Confidence Level** |
| * Identifying Constraints and objectives, explore various public forums to collect relevant projects of LLM model and search on Data Set. | [18/03/2024]  -  [24/03/2024] | * Deliverable 1.1—Identifying Constraints and objectives. * Deliverable 1.2—Explore various public forums to collect relevant projects of LLM model. * Deliverable 1.3— Data set | [High] |
| * Architecture building, find LLM model codes using Tapex or Tapas and BERT model | [25/03/2024]  -  [31/03/2024] | * Deliverable 2.1— Architecture building * Deliverable 2.2— Tapex or Tapas model codes and BERT model finding | [High] |
| * Model build on Tapex with fine tuning and evaluated the performance with deployment | [01/05/2024]  -  [07/05/2024] | * Deliverable 3.1— Model Evaluation, tuning and insights. * Deliverable 3. 2— Deployment | [High] |
| * Show case and review, Final Presentation and documentation, Handover and KT. | [08/04/2024]  -  [19/04/2024] | * Deliverable4.1 – show case and review * Deliverable4.2 – Final Presentation and documentation * Deliverable4.3 – Handover and KT | [Medium] |



# PROJECT CONDITIONS

## Project Assumptions

* Work on data which is extracted from public sources.
* Choose appropriate model according to the dataset.
* Can create a web API by using flask or streamlit.

## Project Issues

**Priority Criteria**

1 − High-priority/critical-path issue; requires immediate follow-up and resolution.

2 − Medium-priority issue; requires follow-up before completion of next project milestone.

3 − Low-priority issue; to be resolved prior to project completion.

4 − Closed issue.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **#** | **Date** | **Priority** | **Owner** | **Description** | **Status & Resolution** |
| 1 | Selection of Model and data set from open sources | High | Individual | Searched from various platforms hugging face, github,  YouTube | Resolved with help of mentor |
| 2 | Model Evaluation and crisping the code | High | Individual | Searched from various platforms hugging face, github,  YouTube | Resolved with help of mentor |

## Project Risk

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Risk Area** | **Likelihood** | **Risk Owner** | **Project Impact-Mitigation Plan** |
| 1 | Model code | Medium | Individual | Under the guide lines of mentor |
| 2 | Fine tuning | Medium | Individual | Under the guide lines of mentor |

## Project Constraints

Finding model and working on workable code was important task for the project to get required results.



# Project Structure Approach

Firstly, the process begins with identifying a suitable dataset aligned with the business objectives. Next, two models are selected for consideration: the Tapex model or the Tapas model and BERT model. A decision is made to proceed with one of these models, based on their compatibility with the project requirements. For instance, the Tapex model might be chosen due to its efficacy in handling structured tabular data. Following model selection, the chosen model is fine-tuned using a specific method such as WTQ (WebQuestions), TABFACT (Table Fact), WikiSQL, or SQA (Sequential Question Answering). In this case, the WTQ fine-tuning method is employed. The model is iteratively trained and adjusted to achieve the desired level of accuracy as per project requirements. Subsequently, the model is deployed using a platform such as Streamlit to make it accessible and usable. Finally, efforts are directed towards creating a comprehensive presentation to showcase the project's findings, methodology, and outcomes. Similarly it is performed on BERT model with lang chain and vector database.



# Project Team Organization Plans

|  |
| --- |
| * Deliverable 1.1— Identifying Constraints and design the project architecture * Deliverable 1.2— Explore various public forums to collect relevant data. * Deliverable 1.3— Data set |
| * Deliverable 2.1— Architecture building * Deliverable 2.2— Tapex or Tapas model codes and BERT model finding |
| * Deliverable 3.1— Model Evaluation, tuning and insights. * Deliverable 3. 2— Deployment |
| * Deliverable4.1 – show case and review * Deliverable4.2 – Final Presentation and documentation * Deliverable4.3 – Handover and KT |



# PROJECT REFERENCES

|  |  |
| --- | --- |
| **Milestone** | **Deliverable** |
| [ https://huggingface.co/microsoft/tapex-large-finetuned-wtq | Yes |
| https://www.youtube.com/watch?v=\_WB10mFa4T8 | Yes |
| https://www.youtube.com/watch?v=dD\_xNmePdd0 | Yes |

# APPROVALS

**Prepared by** NAVEEN KUMAR V P

**Approved by** Sharat Chandra M\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Project Sponsor

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Executive Sponsor

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Client Sponsor



# APPENDICES

## Document Guidelines

## Project Charter Document Sections Omitted

