

Project plan for portfolio project:

Preem App

18th of February 2025

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Summary: This project plan outlines the development of a proof-of-concept (PoC) prototype, preliminary named “the Preem App”, aimed at enhancing the portfolio of Johannes Parsmo. The project seeks to demonstrate skills in project planning, design, and programming interactive human-AI (H-AI) systems, particularly focusing on Retrieval-Augmented Generation (RAG) systems relevant to Preem and its customers.

The timeline for the project spans from February 18 to February 27, 2025, with a structured approach that includes literature research, the creation of a design document, implementation of the prototype, and project evaluation. The design will emphasize rational design methods, ensuring a feasible and relevant outcome within the constraints of time and resources.

The proposed app aims to facilitate better road-trip planning for truckers by recommending routes, restaurants, and fuel stops, thereby providing value to both Preem and its potential users. The project ultimately aspires to showcase the competencies of the developer while addressing the needs of Preem and its stakeholders.

1. Purpose

The purpose of the project is to create a PoC demo ready prototype that can serve as a portfolio project for me, Johannes Parsmo, and increase my likelihood to be hired by Preem or other company. The project should showcase both my skill for project planning, design and programming of interactive proof of concept (PoC) human AI (H-AI) interaction systems. The primary stakeholders could be viewed as myself, Preem, and some possible Preem customer.

2. Background

Preem recently had job offerings up on their website for 2 different AI development related positions. The first was an AI engineering position and the second for “digital business developers”. Which this project will interpret as work related to project leadership, design, and production of AI systems.

On the engineering job offer, they specified the request for skill related to “RAG-systems” (Retrieval-Augmented Generation). This type of system is familiar, but has yet to be worked on by me and as such is viewed as a good opportunity to learn something new. As such the project will focus on creating some RAG-system that relates to Preem and one of their primary stakeholders.

3. Method

3.1 Design method

The method for achieving a PoC that proofs the viability of some RAG system that is of value to Preem is going to primarily be “rational design” (RD). The reason for this choice is not that it is ideal to this scenario. But rather that I am limited in my ability to use any other strategy given the scope of a portfolio project.

But I will aim to achieve a PoC that could be used as a design probe and or interactive prototype in design experimentation settings.

3.2 Resource limitations

Well this is my portfolio project so it is just me and my computers. I will also use github and huggingface repository systems for prototyping. Time allocation for the project will be at most 7 work days after the 18th. I.e. at the latest the project needs to have concluded 27th of February 2025 as there is the weekend.

3.3 Expected project journey

The expected journey this project will take can be chronologically listed as:

1. **Literature research:** Though familiar with related topics I would like to refresh my memories with prior research on the relevant topics. Included some research on the stakeholders.
2. **Production of design document and final scoping of implementation:** As I will take a rational approach to design, i.e. try to predict a “good” design based on my own knowledge. I will start by writing a document for such a prediction after my literature research. The document should contain; 1) summary of design, 2) analysis of stakeholders, 3) result of literature research, 4) final design pitch, 5) lofi visual representation of design, 6) preliminary software architecture. It is also impossible to scope the implementation before having the design document. As such the final section, 7, of the document will be dedicated to how far I will take the implementation.
3. **Implementation:** The programming of the initial prototype will be done in accordance of the scope and visual design defined by the design document from point 2.
4. **Project evaluation:** A project evaluation document will be written the 27th at the latest. In addition of this I will write a short evaluation for the work I have done each day at the end of each day to help me reflect on how it is going and if I am on schedule. Giving me some agility in the project. The first daily evaluation will be written and uploaded after this document the 18th of February 2025. It will be found in the github repository:

project planning\daily documentation

4. Scope

Though I will take an agile approach to the final prototype it will be limited by the 7 work days time limitation. I will also avoid implementation strategies that require me to learn too many new things that will prevent me from building the design probe ready prototype.

4.1 Implementation and documentation strategy

The programming will occur in an agile fashion with me documenting the answer to the following 3 questions each day:

1. What did I get done today?
2. How well did it go?
3. What will I do and be done with tomorrow?

The documentation and new code will be uploaded each day to the github and huggingface repository. The front end to the github and the back-end to the huggingface repo. It is the hope that I will be able to connect these into a gitpage with the final prototype on it. Though I am not certain of this yet as this is the first time I use the huggingface repo.

5. Preliminary design pitch

It is possible that Preem desires a digital service that can connect them and potential new costumers. Such a service could be conceptualized as an app that can chat about and recommend routes, restaurants and fuel stops on long road trips. An obvious example of drivers taking such trips would be truckers.

5.1 Stakeholders and value proposition

The three stakeholders for the project would become: 1) Myself for the purpose of the project being for my portfolio and needing to express my competences. The value being possible hiring opportunities. 2) Preem as the company that has inspired this project and I am currently applying for employment at. The value being the showcase of my skills and the project might be what they are looking for. 3) Drivers, particularly truckers as the hypothetical end users of the RAG system. Easier road-trip planning would be the proposed value added to the end user.