Project Plan

<Project Name>

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# Introduction

## Background

*This project aims to develop a data analysis and visualization tool for analysing Airbnb open data in Sydney. Airbnb is a global home rental platform and Sydney, as a popular tourist destination, has a large number of Airbnb listings. Both hosts and renters face various challenges, such as how to set or find the right price and understand which areas are most popular. This tool aims to provide valuable insights to both hosts and renters by analysing and visualizing this data.*

## Scope

The scope of this project includes:

Data preprocessing: cleaning and organizing raw Airbnb data.

Data analysis: an in-depth analysis of price, location, and other relevant factors

Data visualization: developing visualization tools to present analysis results in the form of charts and maps.

User interface design: create an intuitive and user-friendly interface for the tool.

The expected outcome is a complete software tool that allows users to select different parameters (e.g., timeframe, region, etc.) for analysis and view clear and accurate visualization results.

Not included in this project:

Mobile application development

Real-time data updates or integration with other external data sources

## Document contents

This document will include the following:

Background and scope definition of the project.

Work Breakdown Structure (WBS) detailing all the different activities and tasks of the project.

Activity Definitions and Estimates, defining clear content and responsibilities for each task or activity and providing time estimates.

Gantt charts, showing the project's timeline and schedule.

*Include some background information about the problem, the scope and what this document will contain.*

# Work Breakdown Structure

*This section should include the work breakdown structure for the whole project. The elements from the WBS should be used to generate your activity definition and those activities should then be scheduled in the Gantt Chart. Remember to consider ALL project activities – anything you do or will need to do should be included in the WBS*

*WBS’s are usually presented as some kind of hierarchical diagram/chart etc. The details what is involved each work unit should be provided in section 3:* ***Activity Definition***

*You do NOT need to do a WBS Dictionary for this project – the activity definition (whilst slightly different) will suffice. The WBS is focussed on SCOPE. The Activity definition is focussed on TIME.*

*日程表

描述已自动生成*

# Activity Definition & Estimation

*From your WBS, define the activities required for your project. You will revise this document and add more detail for part B as you discover more about the project.*

*Each activity should be clearly identified by a number and should match up to your Gantt chart. You should provide some estimations for the time you think each activity will take. This should make it easy to prepare your Gantt chart.*

3.0 Activity Definition & Estimation

From the WBS, the following are the activities required for the project:

1.1 Project Background & Overview: Define the objectives, background, and expected outcomes of the project.

Estimation: 2 days

1.2 Dataset Analysis & Selection: Analyze various datasets and select the most suitable one for further analysis.

Estimation: 3 days

1.3 Project Scope Definition: Clearly define the scope of the project and the expected deliverables.

Estimation: 2 days

1.4 Project Milestone Setting: Set key project milestones and their expected completion dates.

Estimation: 1 day

2.1 Use Case Definition: Define the main use cases based on user requirements.

Estimation: 2 days

2.2 Use Case In-depth Analysis: Conduct a detailed analysis of each use case.

Estimation: 3 days

2.3 User Interaction Requirement Analysis: Analyze how users will interact with the system and define the main user interfaces and interaction methods.

Estimation: 2 days

2.4 Functional Module Division: Divide the software into different functional modules based on system requirements.

Estimation: 2 days

2.5 Prototype & Interface Sketch Design: Design preliminary prototypes and interface sketches for the software.

Estimation: 3 days

2.6 Data Structure & Flowchart Design: Design the main data structures and software flowcharts.

Estimation: 3 days

2.7 UML Modeling & Design: Use UML to model the system, including class diagrams, sequence diagrams, etc.

Estimation: 4 days

3.1 Data Preprocessing & Cleaning: Preprocess and clean the dataset to ensure data quality.

Estimation: 4 days

3.2 Class & Component Implementation: Implement the main classes and components based on UML designs.

Estimation: 5 days

3.3 Algorithm Design & Optimization: Design and implement the main algorithms and optimize them.

Estimation: 5 days

3.4 User Interface Development: Develop the user interface ensuring it's user-friendly.

Estimation: 4 days

3.5 API & Method Implementation: Design and implement the main APIs and methods.

Estimation: 4 days

3.6 Software Packaging & Test Preparation: Package the software and prepare for testing.

Estimation: 2 days

4.1 Test Plan Design: Design a detailed software testing plan.

Estimation: 3 days

4.2 Internal Testing & Verification: Conduct internal software testing and verification.

Estimation: 5 days

4.3 Test Result Analysis: Analyze the test results and identify software issues and defects.

Estimation: 2 days

4.4 Issue Fixing & Optimization: Fix issues based on test results and optimize the software.

Estimation: 4 days

4.5 Final Software Packaging & Delivery: Package the software and deliver it to the customer.

Estimation: 2 days

5.1 Git Version Control: Use Git for version control and track all changes.

Estimation: 1 day

5.2 Project Documentation Writing: Write detailed project documentation, including design documents, user manuals, etc.

Estimation: 4 days

5.3 Project Review & Summary: Review the project and summarize the experiences and lessons learned.

Estimation: 2 days

# Gantt Chart

*This section should contain your Gantt chart. The items in the Gantt chart should match the activity definition from section 3. You should also submit your Gantt chart file separately.*