

Group 17 - Phase 2 Report

The Use of Generative AI to generate estimates for the project plan, design document, source code, test plan and test cases, user API documentation.

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Estimation using Generative AI

The project has incorporated generative AI, specifically GPT-3 from OpenAI, for generating estimates related to the project plan, design document, source code, test plan, and test cases. The AI model has been trained on a dataset comprising information from 100 projects, including time and effort calculations for training

Training Data

- Training Dataset: train_data.csv (The SEERA Software Cost Estimation Dataset - <https://zenodo.org/records/3987969>)
- Columns: Project ID, Time for Project Plan (Hrs), Time for Design Doc (Hrs), Lines of Source Code, Number of Test Cases, Time for User API Doc (Hrs), Time for Coding (Hrs), Time for Testing (Hrs), Project Length (Hrs), Effort (Hrs)

Estimation Results

- The generative AI model has been applied to estimate the 'Effort (Hrs)' for the testing data.
- Additional estimates include 'Duration (Days)', 'Time for Coding (Hrs)', and 'Time for Testing (Hrs)'.

Features:

1. Data Source
2. Data Preparation and Analysis
3. Open AI integration
4. Training Model
5. Prompt Engineering
6. Error Handling
7. Estimate Prediction
8. Scalability (InProgress)
9. Accuracy of test data (to be determined)
10. Documentation (to be done)