

**Evaluation of the Best Prompt Engineering Template for Web Landing Page Requirements Analysis**

A fictional software web application development company, “EasyApps”, has been awarded a contract to build a single web application for a fictional company, “Structured Mechanics Enterprises”, but are instructed to make the user-facing landing page reflective of a functional area within “Structured Mechanics Enterprises”.

\* Authors: Linda Thomas (https://github.com/CS-AIgen-Lin/PromptEngineeringforReqAnalysis.git)

\* Academic Supervisor: [Dr. Fernando Koch] (http://www.fernandokoch.me)

**# Research Question**

How to dynamically build User Requirements for a unique landing page in various areas within an organization. In this Use Case: “Structured Mechanics Enterprises”.

We’ll gather enough information for a process to build the web pages!

**## Arguments**

Prompt

Message

Error

**#### What is already known about this topic**

\* you could do {something} to achieve {some result}

\* the challenges of {doing something}

\* the possibility of {doing something else}

\* ...

**#### What this research is exploring**

## **Tools Used and Environment**

* Ollama 3.2
* Python 3.12
* Visual Studio 2022 (version 17.7.5)
* Windows 11
* 8 Core (16 logical processors); Base Speed: 1.8 GHz; Available RAM: 7.4 GB; 12.5 MB cache memory.

Files and General Settings Used for Configuration

* \_Pipeline\_ChainofThought.py
* \_Pipeline\_FewShots.py
* \_Pipeline\_PromptTemplate.py
* \_Pipeline\_Meta.py
* \_config.py (Contains URL to Ollama on local computer)
* Requirements.txt (General instructions for Python)

\* we employ {some technique}

\* we are building {something}

\* we are exploring {some idea or technology}

**#### Implications for practice**

\* it will be easier to {do something}

\* it will optimize {some process}

\* we will better understand {some process}

\* ...

# Research Method

Based on the environment stipulated in the Tools section,…..

## Few-Shots Prompting

## Prompt-Template Prompting

## Chain-of-Thought Prompting

## Meta Prompting

**# Results**

**Performance**

Based on the environment stipulated in the Tools section,…..

Test 1: Zero-Shots Prompting

Figure 1

Zero-Shots Prompting Simulation

Test 2: Few-Shots Prompting

Figure 2

Few-Shots Prompting Simulation

Test 3: Prompt-Template Prompting

Figure 3

Prompt-Template Prompting Simulation

Test 4: Chain-of-Thought

Figure 4

Chain-of-Thought Prompting Simulation

Test 5: Meta Prompting

Figure 5

Meta Prompting Simulation

Test 5: Chain-of-Thought

Figure 5

Chain-of-Thought Prompting Simulation

**Describe the results achieved through your research process.**

**Conclusion**

The “EasyApps” software engineers provided their customers, business analysts of “Structured Mechanics Enterprises”, the\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Prompt Requirements Analysis tool.

Feedback from the business analysts was\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The more Questions and Answers provided through the PROMP pipeline the more refined the answers from the Prompt Engineering Tool. The Took continues to drill to more answers about your Q and A.

**# Further research**

Describe what we could do next and propose new ideas for further research.

Allow user input to gather information from at least one person from each user group. The more input we have about how the user would like to use the system, the more behavior we can add. Humans actually supply the information; AI supplies assistance in the form of refined information to help build our product.