Technical Design Document

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# Description:

This Python application evaluates the likelihood that an email message is spam. It scans the email for 30 common spam words or phrases. For each match found, it increases the spam score. Based on the score, the application reports the likelihood that the message is spam (None, Low, Medium, High).

# Functions:

|  |  |
| --- | --- |
| Function Name | Purpose |
| \_\_init\_\_ | Initializes the spam\_words\_list with 30 common spam words/phrases. |
| scan\_email | Scans the provided email text and returns all spam words found. |
| main | Handles user input, creates a scanner instance, evaluates spam score, and displays the report. |

# Logical Steps:

* Define a class SpamScanner with:
* - A list of 30 spam-related words and phrases in \_\_init\_\_.
* - A method scan\_email() that checks for those words in user input.
* In the main() function:
* - Prompt the user to input an email message.
* - Use the scan\_email() method to detect spam words.
* - Count the number of matches to calculate the spam score.
* - Use if-elif-else conditions to classify the spam likelihood:
* - 0 matches → Not Spam
* - 1–2 matches → Low likelihood
* - 3–5 matches → Medium likelihood
* - 6+ matches → High likelihood
* - Display a spam report with:
* - Spam score
* - Spam likelihood
* - List of detected spam words

# Debugging & Error Handling Improvements:

* Fixed logic placement: Functions were improperly nested inside each other.
* Corrected misuse of self: Cleaned up class instantiation and method calls.
* Improved structure: Moved all operational code into main() to follow best practices.
* Fixed typo: spam\_wors\_list → spam\_words\_list.
* Enhanced readability: Added report headers and spacing for clarity in output.

# Testing Recommendations:

* No spam words → Expect Spam score: 0, Not spam
* 1–2 spam words → Expect Low likelihood
* 6+ spam words → Expect High likelihood

# Repository Link:

[CampsPA/Paul\_Campos\_Programming\_Exercise\_2](https://github.com/CampsPA/Paul_Campos_Programming_Exercise_2)

# Sample Output Screenshot:

High score:

A screenshot of a computer

AI-generated content may be incorrect.

Low score:

A screenshot of a computer

AI-generated content may be incorrect.