Topic Name

# System PRD

| Section | Description |
| --- | --- |
| **🧭 Product Goal** | *State in one sentence what problem you want to solve and who the user is.* |
| **🔌 I/O Definition** | *Clearly specify the input (type, source) and output (format, range).* |
| **⚙️ Constraints** | *Specify what is not allowed (e.g., external libraries, APIs) and the environment where it must run.* |
| **✅ Acceptance Criteria** | *Write 3–5 testable conditions (items that can be checked as Pass/Fail).* |
| **Sub-system** | *List the title and usage of sub-system* |
| **Data Flow** | *Use arrow 🡪 to show the data flow(e.g. distance🡪MCU🡪OLED) or use sequence diagram* |

# Sub-system

## Sub-system TITLE 1

| Section | Description |
| --- | --- |
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| **💬 Prompt Writing Area** | *Combine the above four sections into one complete structured prompt for the AI.* |

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# Vibe programming process:

## Sub-system TITLE 1:

Print-screen or export link of AI tools(截圖或匯出連結)

Remark of prompt iteration:

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Remark of AI output | Testing Result | Remark of improvement |
| V1 |  |  |  |
| V2 |  |  |  |

## Sub-system TITLE 2:

Print-screen or export link of AI tools(截圖或匯出連結)

Remark of prompt iteration:

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Remark of AI output | Testing Result | Remark of improvement |
| V1 |  |  |  |
| V2 |  |  |  |

# Testing report and acceptance records

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Trial | Input Value | Expect value | Actual Result | Passed (✔ / ✘) |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |

*💬 註：可填具體數據，例如測距 10 cm / 顯示 9.8 cm / 誤差 < ±1 cm → ✔。*

# Computational Thinking & Creative Extension

|  |  |
| --- | --- |
| **Field** | **Description** |
| **Application Scenario** | *In what real-world context could this system be applied? (e.g., obstacle-detection cane for the visually impaired, smart trash bin with fill-level detection)（例：盲人手杖避障、智慧垃圾桶測滿水位）* |
| **User Needs** | *What are the target users’ pain points? How does this function address or solve them? 目標使用者有咩痛點？這項功能如何解決？* |
| **New I/O Design** | *What new inputs or outputs would you add? (e.g., buzzer, vibration motor, voice feedback)* |
| **Flowchart / Concept Sketch** | *Draw or briefly describe the overall workflow.* |
| **Social Value or Extension Potential** | *What contribution does this application make? How could it be extended into another product or research topic?* *此應用有咩貢獻？可再延伸成邊種產品或研究方向？* |