

Emulating Clinical Supervision: An Interactive AI Framework For Automated Traditional Chinese Cognitive Assessments

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Key Takeaway: An automated, microservice-based AI framework that emulates clinical supervision through real-time affective monitoring and dynamic prompting, ensuring high-quality data acquisition and extracting 15 linguistic biomarkers for early AD detection.

INTRODUCTION

SYSTEM STRUCTURE

RESULT

Data Quality Gap: Remote assessments lack clinical supervision, often resulting in suboptimal data (e.g. brief responses).

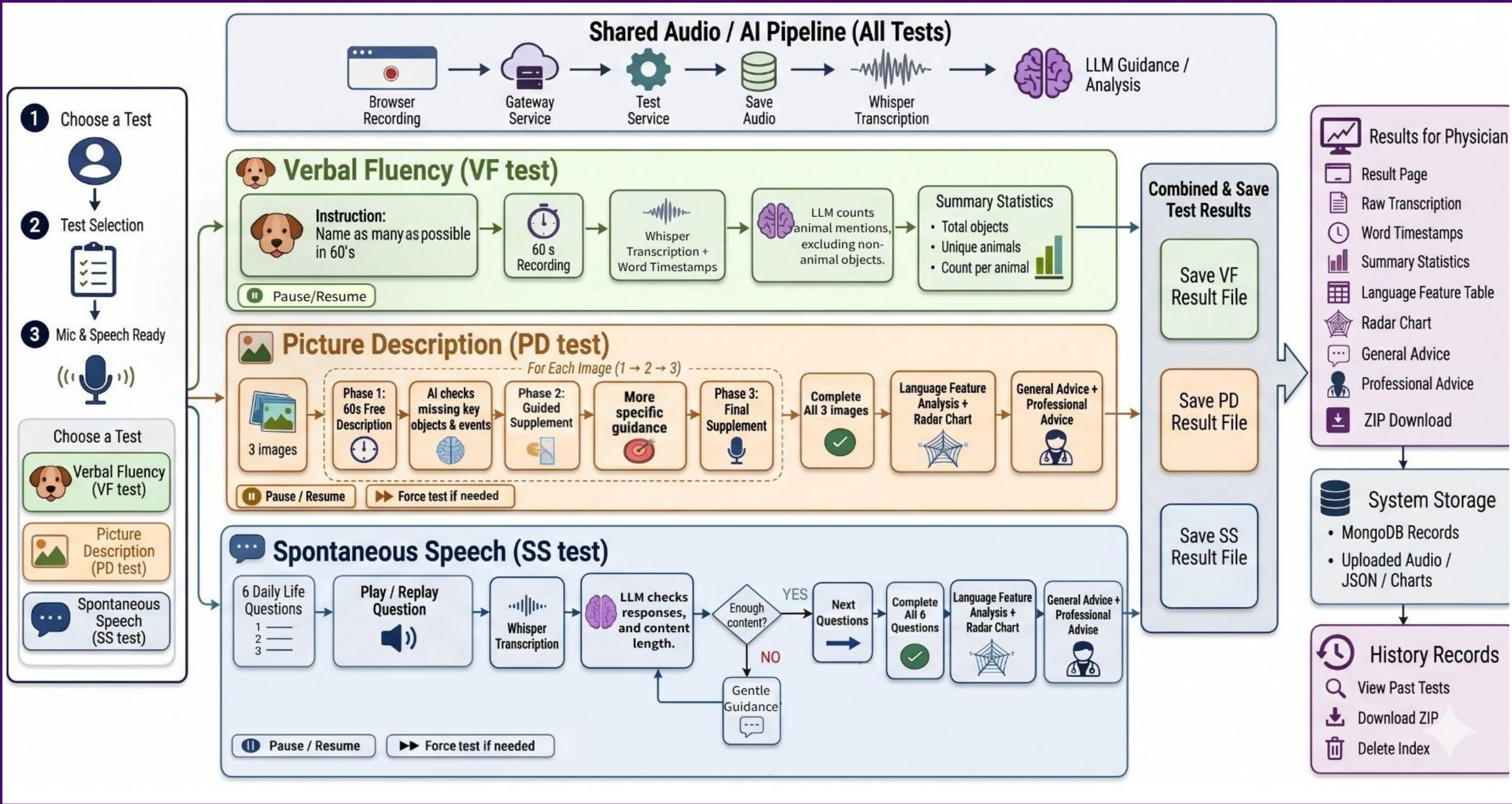
Participant Distress: Unguided tests can cause anxiety in patients with cognitive decline, and compromising validity.

METHODS

Verbal Fluency (VF): A 60-second semantic fluency task.

Picture Description(PD): Participants describe three standardized images.

Spontaneous Speech(SS): Participants answer six daily-life questions.



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SS TASK QUESTIONS

請問您的家鄉在哪裡？住了多久？
有沒有特殊的回憶？
WHERE IS YOUR HOMETOWN? HOW LONG DID YOU LIVE THERE? DID YOU HAVE ANY SPECIAL MEMORIES FROM THERE?

PD TASK QUESTIONS

VF TASK QUESTIONS

Animal
in 60s

OUTPUT

測驗結果

76 3

SS Task, PD Task: Radar charts displaying 15 linguistic biomarkers

VF Task: Object quantification dashboard

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