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VIRTUAL PATIENTS IN PSYCHIATRY: A CONVERSATIONAL AI PLATFORM FOR SIMULATION-BASED MEDICAL TRAINING

Type: Abstract Submission

Topic: AS22 - Education in psychiatry / AS22b - Mental health in educational systems (preschools, schools, and universitites)

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Objectives

This study designed a scalable educational platform for psychiatric training. The platform aims to simulate interactive communication with virtual psychiatric patients, allowing practitioners to practice diagnostic skills safely.

Methods

We developed a virtual patient system with a user-friendly interface supporting voice input and output. The platform includes a database of 60 patient profiles sourced from real clinical cases, anonymised medical records, and synthetically generated data, offering various diagnostic scenarios (Fig. 1). The system features tools for inspecting physiological examinations (Fig. 2) and evaluating students' adherence to ethical and methodological standards and verifying the accuracy of their diagnoses (Fig. 3).

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Results

The platform was developed with 14 psychiatrists and tested on 9 students. Psychiatrists rated the realism of dialogues as highly satisfactory , while students reported improved diagnostic confidence 7.5/10). The average diagnostic score for all psychiatrists was 71% (Table 1). The system maintained low latency (under 1s per response), and the Gemini 2.0 Flash model demonstrated strong emotional consistency and accurate role-play. Participants found the experience of communicating with virtual patients useful (7,5/10, see Table 2). Cost analysis revealed the solution is viable for large-scale educational deployment.

table 1.png

Table 1. Psychiatrists Summary Report. Expert 1 was participating in the design process.
The coding of similiarity score to human: 0-not , 1-medium, 2-yes

Experts	# Tests	# Patients tested	# bugs found	Avg human score (0,1,2)	Avg Diagnosis Score
Expert 1	90	59	28	1,8	**69,3**
Expert 2	2	2	1	2	**80**
Expert 3	2	2	2	2	**75,0**
Expert 4	2	2	1	2	**75**
Expert 5	2	2	2	2	**65,0**
Expert 6	2	2	1	2	**65**
Expert 7	2	2	1	2	**75,0**
Expert 8	1	1	1		
Expert 9	1	1	0	2	**80,0**
Expert 10	1	1	0	2	**80**
Expert 11	1	1	1	1	**20,0**
Expert 12	1	1	0	2	**80**
Expert 13	1	1	1	2	**80,0**
Expert 14	1	1	1	2	**80**

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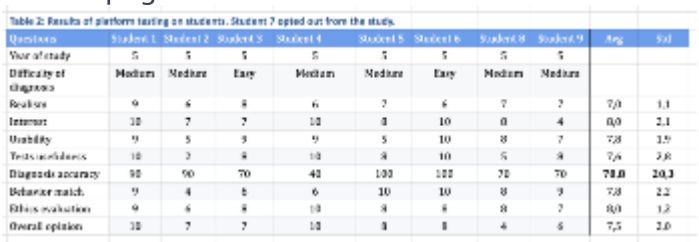
table 2.png



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Conclusions

The system provides a low-cost, language-adaptable, user-friendly solution for practising diagnostic interviews and receiving structured feedback. Future development will focus on expanding the patient database, incorporating multimodal diagnostic cues (e.g., images, labs), and refining feedback systems through further clinician input. The approach holds promise for reshaping psychiatric training and bridging the gap between theory and safe, realistic practice.

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