Bard

2D Voice-Controlled Video Game

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Group 2 (undergrad)
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The Project

Goal: implement a classic 2D explorer game (**Rogue**) with speech-recognition controls.

Controls: users speak game commands into the mic, and an interpreter executes them.

User Studies

Studies were conducted among peers, with one facilitator and one notetaker.

Users completed common tasks like:

- Move rooms
- Fight an enemy
- Find the exit

User statistics were compiled; user feedback was grouped into potential critical incidents.

Time to complete task	# of commands to complete task	# of unrecognized commands.	# of misinterpreted cmds
42.16	3	2	
28.03	1	3	
0.12s	5	2	0
2.10s	17	12	2
1.45s	22	6	2
1.04	10	3	1
16.247337962963s	325	141	57
	Miss Rate:	30%	

Common observations:

- Misunderstandings by interpreter.
- Users unsure what to do/can be done.

Critical Incidents (And Possible Solutions)

CI#1: Poor command recognition

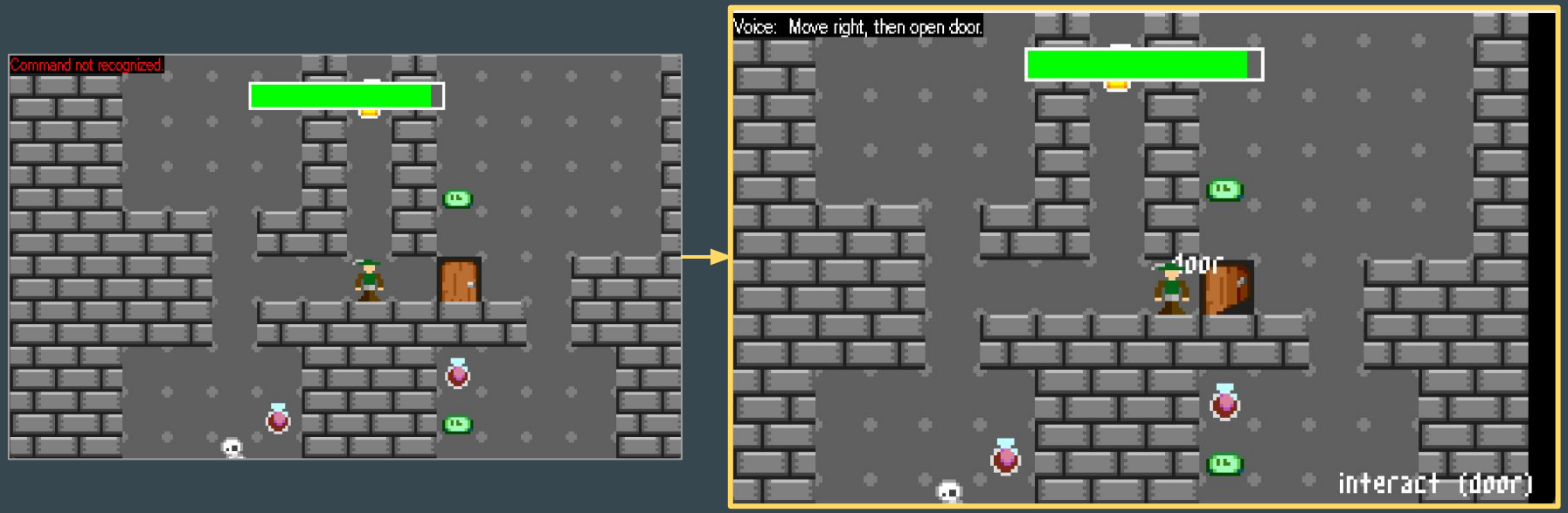
- Refine interpreter to handle additional syntax.
- Continue to expand interpreter vocabulary.

CI#2: Multi-step command misfires

- Allow interpreter to “queue” commands.
- Ensure commands are interpreted in order.

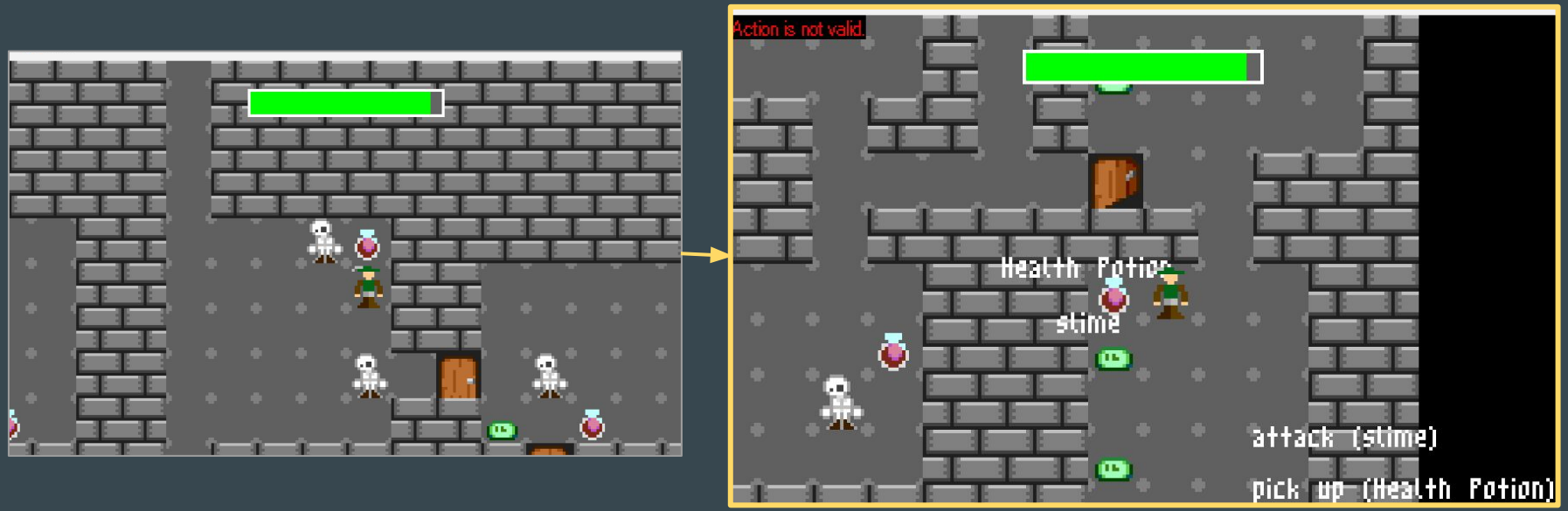
CI#3: Confusion over game state/intentions

- Increase visual indicators to input response.
- Add UI elements for guidance and tracking.



Change #1: Improving Interpreter

To better handle multi-step commands, and improve understanding of user commands.



Change #2: UI Elements

To better indicate what the user can do; let user make informed decisions.