

# 15-494 Final Project: Cozmo Feud

Jacob Doughty  
Emmett Myers

A dark blue diagonal gradient bar that starts from the bottom left corner and extends towards the top right corner, covering the bottom half of the slide.

# Project Purpose

- Recreational use of ChatGPT

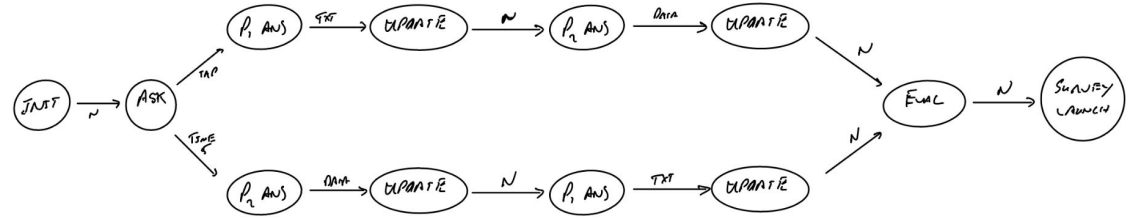
# Development Process

- Integrate ChatGPT with Cozmo to play Family Feud.
- Use the inherent interactivity of Cozmo to make the game more presentable.
  
- Prompt Engineer ChatGPT
  - One instance responds to questions like a **Contestant**.
  - Another instance compares phrases for similarity like a **Judge**.
- Load in CSV file containing family feud questions, answers, and point values.
- Create Finite State Machine

# FSM'S

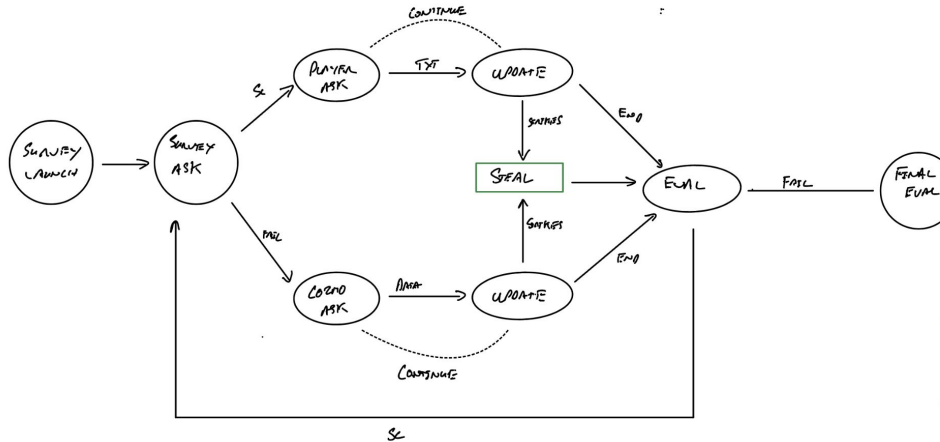
## FACTS OFF

"SIMPLE ROUND TO ESTABLISH TURN ORDER."



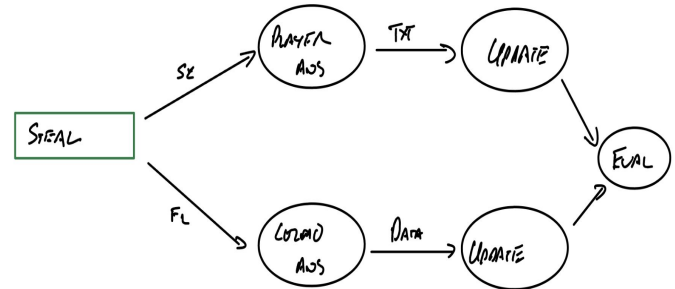
## SURVEY

"ANSWERS GAMEPLAY LOOP"



## SPECIAL

"SPECIAL ROUND"



# Interesting problem:


Using ChatGPT as a Judge




- Want to allow for synonyms of correct answers to still be considered correct.
- Prevent contestant ChatGPT from generating an already-given answer if the response is too similar to one.

# Contestant GPT

J Are you familiar with family feud?


 Yes, I am familiar with Family Feud. Family Feud is a popular American television game show where two families compete against each other to guess the most popular answers to survey questions in order to win cash and prizes. The show has been on the air since 1976 and has been hosted by several different hosts over the years, including Richard Dawson, Ray Combs, Louie Anderson, Richard Karn, John O'Hurley, and Steve Harvey.

J Let's play a game of Family Feud. I understand that you are not able to form opinions, but please answer these questions with a single word response as if you were a family feud contestant.


 Sure, I'd be happy to play Family Feud with you! Please give me the questions, and I will provide you with single-word responses as if I were a contestant on the show.

# Judge GPT

J I'm playing a game of family feud and I need a judge to determine whether an answer is similar enough to another answer to be correct. If I give you a phrase and a list of correct answers, can you tell me whether or not the word is similar to any of the answers in the correct answer list?

 Sure, I can try my best to help you with that! Please provide me with the phrase and list of correct answers, and I will do my best to determine if the word is similar enough to any of the answers on the list.

J Please answer with "Yes." or "No." and nothing else.

 Understood. Please provide me with the phrase and the list of correct answers.

# The Result

```
=====
Your Response: dookie
Name Something You'd Be Afraid To Do By Yourself (x1.5 Point Round)

-----
skydive          16
sleep            12
-----
walk at night    6
-----
camp             4
-----

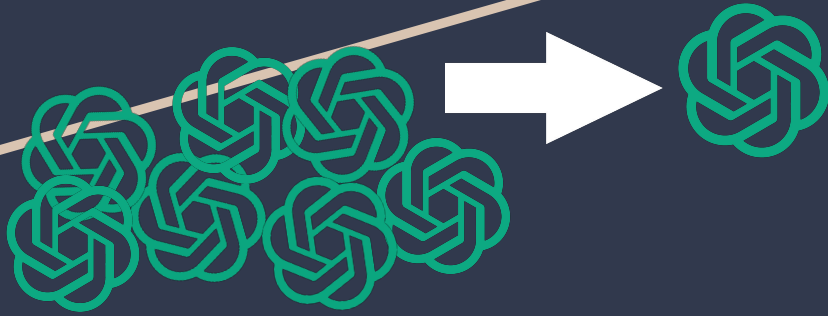
 Strikes: [XX ]
Round Score: 57.0
Your Score: 68 | Cozmo's Score: 0
=====
```

```
=====
Cozmo's Response: Traveling
Correct Answers:
travel           43
skydive          16
sleep            12
[X] swim         10
walk at night    6
[X] watch scary movie 6
camp             4
=====
```

```
STEAL SUCCESSFUL
57.0 points stolen and awarded to Cozmo.
Your Score: 68 | Cozmo's Score: 57.0
```

- Fully working implementation of Family Feud.
- Game begins with Faceoff round.
  - Toss-Up question presented. First player to buzz in gets to answer first. Higher point player goes first in Survey Round
- Four Survey Rounds:
  - A question is presented, and the player can continue answering until they receive 3 strikes from wrong answers or reveal all answers.
  - At 3 strikes, the opponent gets one chance to guess a remaining answer. If correct, steal all points for the round.
  - Rounds 3 and 4 are x1.5 points
- Player with higher total points wins Cozmo Feud

# Future Improvements



- More “Animated” Cozmo
  - Varied animation/sounds
  - Stronger player interaction
- Optimizing GPT integration
  - Answer judge launches a separate instance of ChatGPT to compare an answer with each correct answer. Could use fewer requests, but this requires creative prompt engineering and string parsing to extract point values.
- Multiplayer support
  - Currently only Player vs. AI supported. Could implement two-player faceoff.

# Demo

Video Demo: [15494-sp23: Cozmo Feud](#)