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## Csc466: Sequence of Plans

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**Title: Heuristic Learning Machines for the Playing Card Game called Game of Pure Strategy (GOPS).**

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### First Plan – February 8, 2023

**Description:** The first task will give the reader a detailed description of the game as well as why I am researching Heuristic Machines for the playing card game called GOPS. Tasks 2 through 5 are tasks that deal with the creation of the game. Tasks 6 through 8 deal with the creation of two machines that will play against each other. Tasks 9 through 14 deal with creating additional heuristic machines with different focuses and to see how each machine performs against the random machine. Task 15 summarizes the project.

- Task 1 Description of the game | Reasoning for picking GOPS for a project
- Task 2 Creating and Displaying a standard deck of cards.
- Task 3 Dealing a hand to two players.
- Task 4 Set-up the game: Includes shuffling a suit, removing the unused suit, showing the prize card
- Task 5 Game Rules: Bidding, Scoring, Draws, Playing a card
- Task 6 Random GOPS Machine
- Task 7 Heuristic GOPS Machine
- Task 8 Game Playing Interface
- Task 9 Random Machine Vs. Heuristic Machine
- Task 10 Analysis of Random V Heuristic Machine
- Task 11 Additional Heuristic Machines: Focus on their cards, score only.
- Task 12 Analysis of new Heuristic Machines V Random Machine
- Task 13 Additional Heuristic Machines: Focus on opponent's bids, score
- Task 14 Analysis of new Heuristic Machines V Random Machine
- Task 15 Reflections

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## Second Plan – February 28, 2023

**Description:** A few changes occurred this week:

1. Previous tasks 3 and 4 were merged.
2. Added Heuristic Machines vs Heuristic Machines ( Task 9,13,15 )
3. Changed size of previous plan to help with read-ability

**Misc.:** A few thoughts regarding the project dealing with unused/ discard suite. Ideas: Use the suite for a second round, as a dealbreaker, as a “bonus” round where you play with the cards you won from the prize suite. Another aspect that I thought of is that with all these matches would a tournament be appropriate to see the outcome. Might add these ideas later to a new plan after feedback.

- Task 1 Description of the game | Reasoning for picking GOPS for a project
- Task 2 Creating and Displaying a standard deck of cards.
- Task 3 Dealing a hand to two players, shuffling the prize suite, removing the unused suite, showing the prize card
- Task 4 Game Rules: Bidding, Scoring, Draws, Playing a card
- Task 5 Random GOPS Machine
- Task 6 Heuristic GOPS Machine
- Task 7 Game Playing Interface
- Task 8 Random Machine Vs. Heuristic Machine
- Task 9 Heuristic Machine Vs. Heuristic Machine
- Task 10 Analysis of matches
- Task 11 Additional Heuristic Machines: Focus on their cards, score only.
- Task 12 Heuristic Machines Vs Random Machine and analysis
- Task 13 Heuristic Machines Vs Heuristic Machines and analysis
- Task 14 Additional Heuristic Machines: Focus on opponent’s bids, score
- Task 14 Heuristic Machines Vs Random Machine and analysis
- Task 15 Heuristic Machines Vs Heuristic Machines and analysis
- Task 16 Reflections

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## Third Plan –March 7, 2023

**Description:** A few changes occurred this week:

1. Task 4 and 5 were combined into one.
    - a. Task 4 Game Rules: Bidding, Scoring, Draws, Playing a card
    - b. Task 5 Random GOPS Machine
  2. Task 4 was reduced in description.
  3. Added Random Machine V Random Machine to Task 4.
- Task 1 Description of the game | Reasoning for picking GOPS for a project
  - Task 2 Creating and Displaying a standard deck of cards.
  - Task 3 Dealing a hand to two players, shuffling the prize suite, removing the unused suite, showing the prize card
  - Task 4 Game rules & Random Machine V Random Machine
  - Task 5 Heuristic GOPS Machine
  - Task 6 Game Playing Interface
  - Task 7 Random Machine Vs. Heuristic Machine
  - Task 8 Heuristic Machine Vs. Heuristic Machine
  - Task 9 Analysis of matches
  - Task 10 Additional Heuristic Machines: Focus on their cards, score only.
  - Task 11 Heuristic Machines Vs Random Machine and analysis
  - Task 12 Heuristic Machines Vs Heuristic Machines and analysis
  - Task 13 Additional Heuristic Machines: Focus on opponent's bids, score
  - Task 14 Heuristic Machines Vs Random Machine and analysis
  - Task 15 Heuristic Machines Vs Heuristic Machines and analysis
  - Task 16 Reflections

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## Fourth Plan –March 28, 2023

**Description:** Removed task 7 as a heuristic machine vs random machine was done in task 5 to demonstrate the heuristic machine.

- Task 1 Description of the game | Reasoning for picking GOPS for a project
- Task 2 Creating and Displaying a standard deck of cards.
- Task 3 Dealing a hand to two players, shuffling the prize suite, removing the unused suite, showing the prize card
- Task 4 Game rules & Random Machine V Random Machine
- Task 5 Heuristic GOPS Machine
- Task 6 Game Playing Interface
- Task 7 Heuristic Machine Vs. Heuristic Machine
- Task 8 Analysis of matches
- Task 9 Additional Heuristic Machines: Focus on their cards, score only.
- Task 10 Heuristic Machines Vs Random Machine and analysis
- Task 11 Heuristic Machines Vs Heuristic Machines and analysis
- Task 12 Additional Heuristic Machines: Focus on opponent's bids, score
- Task 13 Heuristic Machines Vs Random Machine and analysis
- Task 14 Heuristic Machines Vs Heuristic Machines and analysis
- Task 15 Reflections