

DETECTIVE Prolog

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Overview

Detective Prolog

This project aims to create an educational game based on using logic-based deduction programming. The idea is to find out who the murderer is with a list of facts, in the manner of a detective on a crime scene.

PROJECT DESCRIPTION

- Prolog uses the provided clues to infer which suspect is the murderer.
- The Player is assumed to be a detective
 - ❑ tries to solve the puzzle by entering the correct pieces of code instead of the “?”.



Who? How? When?



Murder weapon

Victim

Weekdays

Motive

Location

Victim

MURDER WEAPONS

Knife, Wrench, Rope, Pistol, Candlestick, Poison

LOCATIONS

Kitchen, Library, Dining room, Bedroom, Garage,
Garden, Pool



Weekdays

Friday, Saturday, Sunday

Motives

Revenge, Heritage, Money, Passion, Hatred



Victims

Mr. Snoop, Mrs. Rihanna

Suspects

Mrs. Scarlett, Mr. Mustard, Mr. Green,

Mrs. Peacock, Mr. Plum, Miss Peach,

Mr. Brunette



Facts

```
1 % Declare the victims
2 victim(snoop).
3 victim(rihanna).
4
5 % Declare the men
6 man(snoop).
7 man(mustard).
8 man(green).
9 man(plum).
10 man(brunette).
11
12 % Declare the women
13 woman(rihanna).
14 woman(scarlett).
15 woman(peacock).
16 woman(peach).
```

```
18 % Declare the possible murder weapons
19 weapon(knife).
20 weapon(wrench).
21 weapon(ropе).
22 weapon(pistol).
23 weapon(candlestick).
24 weapon(poison).
25
26 % Declare the possible days
27 day(friday).
28 day(saturday).
29 day(sunday).
```



Rules

```
47 % Declare the suspects
48 suspect(X):- man(X), \+victim(X).
49 suspect(X):- woman(X), \+victim(X).
50
51 % Declare which suspect has which weapon
52 has_weapon(X, Y):- man(X), woman(X), weapon(Y).
```



Lvl.1

Clue 1:

"Police found the body of a person in the house on Saturday morning and the doctor declare the crime happened about 12 hours ago."

```
57 % Declare the date of crime  
58 date(X) :- day(X), \+ X = saturday, \+ X = sunday.
```



Lvl.1

Clue 2:

"Neighbors heard that victim was arguing with a man last night."

```
64 % Declare the predicate "arguing" to represent the fact that  
65 % two people were arguing on a certain day  
66 has_argue(X, Y, Z) :- murdered(X), suspect(Y), man(Y), X \= Y, date(Z).
```



Interact with players

Clue: "Victim's wife call the police at 9 o'clock in the morning."

What can we write instead of "?" a clue to indicate the gender of the victim? `murdered(M) :- victim(M), ?(M).`

input --> `man`

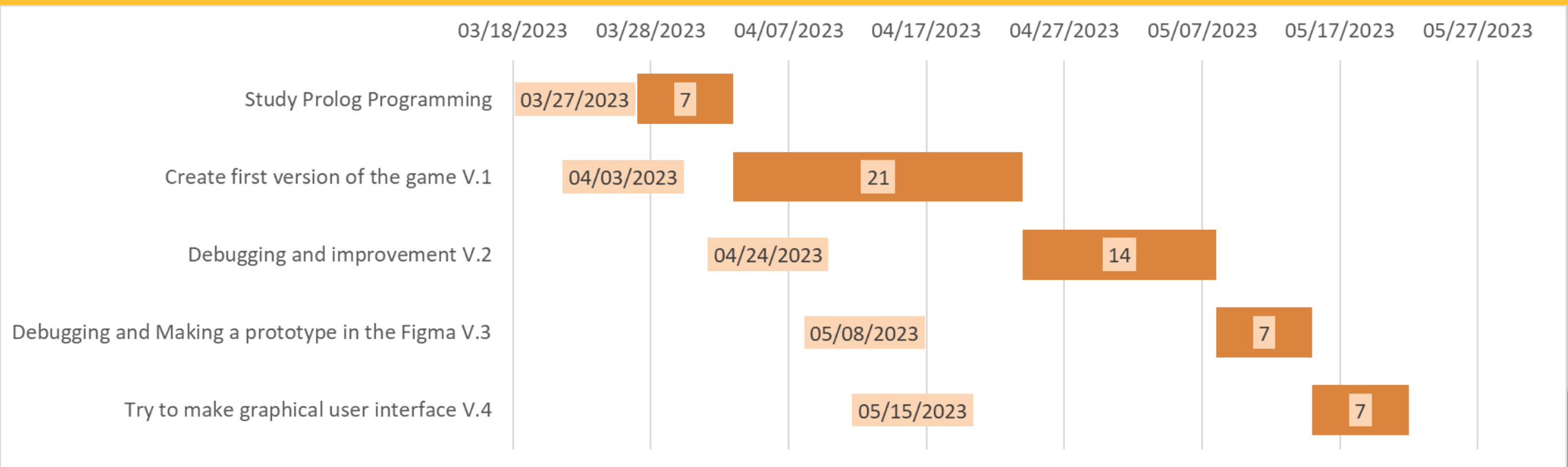
- Players receive a point for each correct answer.



What do we expect?

- ☐ Create a game in which for each crime we have only one murderer.
- ☐ Interact with players and assign scores based on their guesses.
- ☐ Make a graphical user interface.

Project Timeline



THANKS

Does anyone have any questions?

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