

Disney Character Expert System



Team member:

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Task distribution:

Writing two rules: Alice, Peter Pan Writing the body of the report Writing the body of the code Write the menu loop Write the rules and the classification rules in our system Design the report	ريم الشريف
Writing two rules: Bella, Jane Design the interface Write the menu loop Write introduction and the purpose of the expert system	جمانة الوافي
Writing two rules: Tata, pumbaa Write the menu loop Write the rules and the classification rules in our system Rest of the report	روان عبده



Introduction:

Entertainment Expert System: One of the most common applications of an expert system is an entertainment expert system. The main goal is to entertain the users in various fields and disciplines. The entertainment expert system is an application of an expert system and has several other wide fields in it.

The purpose of the expert system: Nowadays people need a break from the world for minutes, one of the ways to achieve that is by interacting with an application of an entertainment expert system, So the purpose of all entertainment expert system applications is to entertain the users. and this is built up of programs and a knowledge of the field of the desired system. In our expert system we had knowledge -based on Disney characters.

The information obtained from the entertainment expert system is based on the field of the application, but in our system, it was information about the Disney characters.

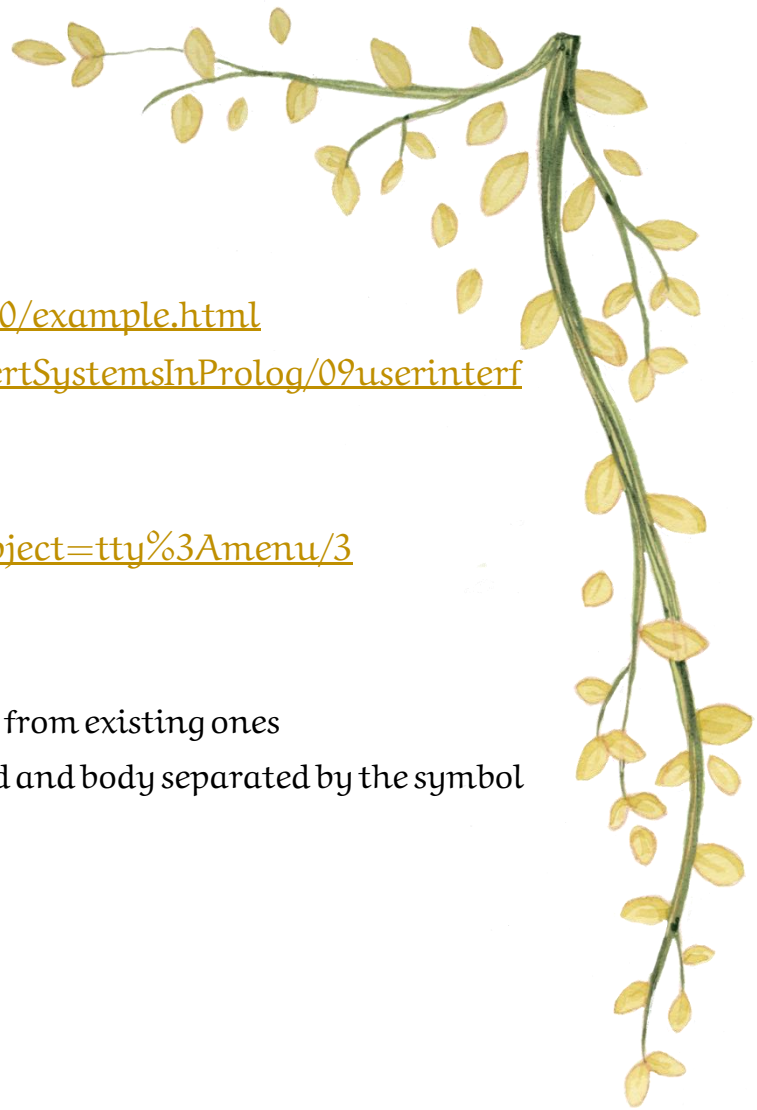
Our expert system has characteristic information about each character. The user answers the question with “yes” or “no”, and the system will guess which character the user thanked about depending on the answers.

Our system has limited characters so it cannot think or learn by itself, it needs the characters to be entered by the programmers.

That means, the knowledge base can be updated with new characters any time.

The users of the system: Everyone can use our entertaining system.





Resources:

- <https://cse.sc.edu/~ahein/330/example.html>
- <https://www.amzi.com/ExpertSystemsInProlog/09userinterface.htm>
- https://eu.swi-prolog.org/pldoc/doc_for?object=tty%3Amenu/3

Rules:

- rules are used to infer new facts from existing ones
- a rule consists of two parts: head and body separated by the symbol “:-”.

classification rules in our system:

Structure → head :- body

child :- verify(has__brown__hair),!.

child :- verify(has__yellow__hair),!.

animal :- verify(is__an__elephant),!.

animal :- verify(is__a__pig),!.

woman :- verify(is__woman),!.

The technique used to acquire knowledge from the system's diagram.

we used our base knowledge to write our system.

References:

-Disney character information:

https://disney.fandom.com/wiki/The_Disney_Wiki

Appendices: (source code+ run screenshots)

Source code:

```
/* Disney Character.pro
```

```
Disney Character identification game.
```

```
start with ?- menu. */
```

menu :-

```
write('|*****|'),nl,
write('| Welcome To Our Desiny Expert System |'),nl,
write('|*****|'),nl,
write('|-----MENU-----|'),nl,
write('|    1.Guess The Disney Character |'),nl,
write('|                                |'),nl,
write('|    2.Exit                        |'),nl,
write('|                                |'),nl,
write('|-----|'),nl,
write('|                                |'),nl,
write('|choose one of these characters and i |'),nl,
write('| will find out which one is on your |'),nl,
write('|    mind!                            |'),nl,
write('|                                |'),nl,
write('| Peter Pan, Alice, Tata, Pumbaa |'),nl,
write('|                                |'),nl,
write('|    Belle, Jane                      |'),nl,
```

```

write('|-----|'),nl,
write('| *please put "." after each query* |'),nl,
write('|-----|'),nl,
write('|*****|'),nl,
write('|          |'),nl,
write('Enter Your Choice:'),nl,
read(Choice), guess(Choice), menu.

```

```

guess(1) :- write('|          |'),nl,
            write('Lets Get Started!!'),nl,
            write('Answer The Questions with yes Or no'),nl,
            go().

```

```

guess(2) :- write('|          |'),nl,
            write('*****'),nl,
            write('*****|| I hope You Enjoed ||*****'),nl,
            write('*****'),nl,
            write('|          |'),nl, abort.

```

```

guess(_) :- write('|          |'),nl,
            write('Wrong!! Choose 1 to guess And 2 to Exit'), nl,
            write('|          |'),nl.

```

```

go() :- hypothesize(Character),
        write('|          |'),nl,

```

```
write('I guess that the disney character is: '),nl,  
write('|'           |'),nl,  
write(Character),nl,  
undo.
```

```
/* hypotheses to be tested */  
hypothesize(peterPan) :- peterPan, !.  
hypothesize(alice)   :- alice, !.  
hypothesize(tata)    :- tata, !.  
hypothesize(pumbaa)  :- pumbaa, !.  
hypothesize(belle)   :-belle, !.  
hypothesize(jean )   :-jean , !.  
hypothesize(unknown). /* no diagnosis */
```

```
/* disney character identification rules */  
peterPan :- child, verify(has_no_parents),  
          verify(wears_a_hat),  
          verify(the_hat_is_green),  
          verify(dont_grow_up),  
          verify(friends_with_tinkerbelle),  
          verify(can_fly),  
          verify(wears_green_clothes),  
          verify(dealing_with_pirates),  
          verify(lives_with_kids),  
          verify(lives_in_Neverland).
```

alice :- child,

- verify(wears_a_dress),
- verify(the_dress_is_blue),
- verify(wears_black_ribbon),
- verify(curious),
- verify(has_blue_eyes),
- verify(uses_her_imagination),
- verify(skinny),
- verify(wears_a_white_apron),
- verify(followed_a_rabbit),
- verify(goes_to_Wonderland).

tata :- animal, verify(is_an_elephant),

- verify(coward),
- verify(walks_on_four),
- verify(friends_with_tarazan),
- verify(have_big_ears),
- verify(have_horns),
- verify(was_in_tarazan_movie),
- verify(friendly_with_humans),
- verify(gaint),
- verify(big_snout).

pumbaa :- animal, verify(is_a_pig),

- verify(walks_on_four),
- verify(friends_with_timon),
- verify(is_wild),
- verify(kind),

verify(lives_in_africa),
verify(friends_with_simba),
verify(was_in_lion_king_movie),
verify(has_a_tail),
verify(says_hakuna_matata).

belle :- woman, verify(has_brown_hair),
verify(is_princess),
verify(talks_to_things),
verify(sings),
verify(has_father),
verify(wears_yellow_dress),
verify(got_married),
verify(is_white),
verify(reads),
verify(lived_with_beast).

jean :- woman, verify(has_brown_hair),
verify(has_father),
verify(wears_yellow_dress),
verify(got_married),
verify(is_strong_and_brave),
verify(is_english),
verify(lives_in_jungle),
verify(likes_animal),
verify(is_animal_researcher),
verify(is_wife_of_Tarzan).


```

/* classification rules */

child :- verify(has_brown_hair), !.
child :- verify(has_blonde_hair), !.
animal :- verify(is_an_elephant), !.
animal :- verify(is_a_pig), !.
woman :- verify(is_woman), !.

```

```

/* how to ask questions */

```

```

ask(Question) :-
    write('Does the disney character have the following attribute: '),
    write(Question),
    write('? '),
    read(Response),
    nl,
    ( (Response == yes ; Response == y)
    ->
        assert(yes(Question)) ;
        assert(no(Question)), fail).

```

```

:- dynamic yes/1,no/1.

```

```

/* How to verify something */

```

```

verify(S) :-
    (yes(S)
    ->
        true ;

```

(no(S)

->

fail ;

ask(S))).

/* undo all yes/no assertions */

undo :- retract(yes(_)),fail.

undo :- retract(no(_)),fail.

undo.

Run screenshots:

```
?- menu.
*****
Welcome To Our Desiny Expert System
*****
-----MENU-----
1.Guess The Disney Character
2.Exit

-----
choose one of these characters and i
will find out which one is on your
mind!

Peter Pan, Alice, Tata, Pumbaa
Belle, Jane

*please put "." after each query*
*****
Enter Your Choice:
| : 2.
*****
*****||| I hope You Enjoed |||*****
*****
% Execution Aborted
~
```

← When user choose 2 the system exists.

-When user choose number other than 1 or 2 a message will appear, and the menu will show again →

```
Answer The Questions with yes Or no
Does the disney character have the following attribute: has_brown_hair? | y.

Does the disney character have the following attribute: has_no_parents? | y.

Does the disney character have the following attribute: wears_a_hat? | n.

Does the disney character have the following attribute: wears_a_dress? | y.

Does the disney character have the following attribute: the_dress_is_blue? | n.

Does the disney character have the following attribute: is_an_elephant? | y.

Does the disney character have the following attribute: coward? | n.

Does the disney character have the following attribute: is_a_pig? | n.

Does the disney character have the following attribute: is_woman? | n.

|
I guess that the disney character is:
|
unknown
*****
```

When the system can't guess the character. The system will print "unknow"

```
?- menu.
*****
Welcome To Our Desiny Expert System
*****
-----MENU-----
1.Guess The Disney Character
2.Exit

-----
choose one of these characters and i
will find out which one is on your
mind!

Peter Pan, Alice, Tata, Pumbaa
Belle, Jane

*please put "." after each query*
*****
Enter Your Choice:
| : 3.
Wrong!! Choose 1 to guess And 2 to Exit
*****
Welcome To Our Desiny Expert System
*****
-----MENU-----
1.Guess The Disney Character
2.Exit

-----
choose one of these characters and i
will find out which one is on your
mind!

Peter Pan, Alice, Tata, Pumbaa
Belle, Jane

*please put "." after each query*
*****
Enter Your Choice:
| :
```

```

Welcome To Our Desiny Expert System
*****
-----MENU-----
      1.Guess The Disney Character
      2.Exit

-----

choose one of these characters and i
will find out which one is on your
mind!

      Peter Pan, Alice, Tata, Pumbaa
      Belle, Jane

-----
*please put "." after each query*
-----
*****

```



Enter Your Choice:

| : 1.

Lets Get Started!!

Answer The Questions with yes Or no

Does the disney character have the following attribute: has_brown_hair? |: y.

Does the disney character have the following attribute: has_no_parents? |: y.

Does the disney character have the following attribute: wears_a_hat? |: y.

Does the disney character have the following attribute: the_hat_is_green? |: y.

Does the disney character have the following attribute: dont_grow_up? |: y.

Does the disney character have the following attribute: friends_with_tinkerbelly.

Does the disney character have the following attribute: can_fly? |: y.

Does the disney character have the following attribute: wears_green_clothes? |:y.

Does the disney character have the following attribute: dealing_with_pirates? |y.

Does the disney character have the following attribute: lives_with_kids? |: y.

Does the disney character have the following attribute: lives_in_Neverland? |: y.

|
I guess that the disney character is:

| peterPan

2.Exit

choose one of these characters and i
will find out which one is on your
mind!

Peter Pan, Alice, Tata, Pumbaa

Belle, Jane

please put "." after each query

Enter Your Choice:

| : 1.

Lets Get Started!!

Answer The Questions with yes Or no

Does the disney character have the following attribute: has_brown_hair? |: no.

Does the disney character have the following attribute: has_blonde_hair? |: yes.

Does the disney character have the following attribute: has_no_parents? |: no.

Does the disney character have the following attribute: wears_a_dress? |: y.

Does the disney character have the following attribute: the_dress_is_blue? |: y.

Does the disney character have the following attribute: wears_black_ribbon? |: y.

Does the disney character have the following attribute: curious? |: y.

Does the disney character have the following attribute: has_blue_eyes? |: y.

Does the disney character have the following attribute: uses_her_imagination? |y.

Does the disney character have the following attribute: skinny? |: y.

Does the disney character have the following attribute: wears_a_white_apron? |:y.

Does the disney character have the following attribute: followed_a_rabbit? |: y.

Does the disney character have the following attribute: goes_to_Wonderland? |: y.

| I guess that the disney character is:

| alice



-----MENU-----

1. Guess The Disney Character

2. Exit

choose one of these characters and i
will find out which one is on your
mind!

Peter Pan, Alice, Tata, Pumbaa

Belle, Jane

please put "." after each query

Enter Your Choice:

| : 1.

Lets Get Started!!

Answer The Questions with yes Or no

Does the disney character have the following attribute: has_brown_hair? | : no.

Does the disney character have the following attribute: has_blonde_hair? | : no.

Does the disney character have the following attribute: is_an_elephant? | : yes.

Does the disney character have the following attribute: coward? | : yes.

Does the disney character have the following attribute: walks_on_four? | : yes.

Does the disney character have the following attribute: friends_with_tarazan? | y.

Does the disney character have the following attribute: have_big_ears? | : y.

Does the disney character have the following attribute: have_horns? | : y.

Does the disney character have the following attribute: was_in_tarazan_movie? | y.

Does the disney character have the following attribute: friendly_with_humans? | y.

Does the disney character have the following attribute: gaint? | : y.

Does the disney character have the following attribute: big_snout? | : y.

|
I guess that the disney character is:

|
tata



2.Exit

choose one of these characters and i
will find out which one is on your
mind!

Peter Pan, Alice, Tata, Pumbaa

Belle, Jane

please put "." after each query

Enter Your Choice:

: 1.

Lets Get Started!!

Answer The Questions with yes Or no

Does the disney character have the following attribute: has_brown_hair? |: no.

Does the disney character have the following attribute: has_blonde_hair? |: no.

Does the disney character have the following attribute: is_an_elephant? |: no.

Does the disney character have the following attribute: is_a_pig? |: y.

Does the disney character have the following attribute: walks_on_four? |: y.

Does the disney character have the following attribute: friends_with_timon? |: y.

Does the disney character have the following attribute: is_wild? |: y.

Does the disney character have the following attribute: kind? |: y.

Does the disney character have the following attribute: lives_in_africa? |: y.

Does the disney character have the following attribute: friends_with_simba? |: y.

Does the disney character have the following attribute: was_in_lion_king_movie?y.

Does the disney character have the following attribute: has_a_tail? |: y.

Does the disney character have the following attribute: says_hakuna_matata? |: y.

I guess that the disney character is:

pumbaa



choose one of these characters and i
will find out which one is on your
mind!

Peter Pan, Alice, Tata, Pumbaa
Belle, Jane

please put "." after each query

Enter Your Choice:

: 1.

Lets Get Started!!

Answer The Questions with yes Or no

Does the disney character have the following attribute: has_brown_hair? |: yes.

Does the disney character have the following attribute: has_no_parents? |: no.

Does the disney character have the following attribute: wears_a_dress? |: no.

Does the disney character have the following attribute: is_an_elephant? |: no.

Does the disney character have the following attribute: is_a_pig? |: no.

Does the disney character have the following attribute: is_woman? |: yes.

Does the disney character have the following attribute: is_princess? |: yes.

Does the disney character have the following attribute: talks_to_things? |: yes.

Does the disney character have the following attribute: sings? |: yes.

Does the disney character have the following attribute: has_father? |: yes.

Does the disney character have the following attribute: wears_yellow_dress? |: yes.

Does the disney character have the following attribute: got_married? |: yes.

Does the disney character have the following attribute: is_white? |: yes.

Does the disney character have the following attribute: reads? |: yes.

Does the disney character have the following attribute: lived_with_beast? |: yes.

I guess that the disney character is:

belle



will find out which one is on your
mind!

Peter Pan, Alice, Tata, Pumbaa

Belle, Jane

please put "." after each query

Enter Your Choice:

| : 1.

Lets Get Started!!

Answer The Questions with yes Or no

Does the disney character have the following attribute: has_brown_hair? | : yes.

Does the disney character have the following attribute: has_no_parents? | : no.

Does the disney character have the following attribute: wears_a_dress? | : no.

Does the disney character have the following attribute: is_an_elephant? | : no.

Does the disney character have the following attribute: is_a_pig? | : no.

Does the disney character have the following attribute: is_woman? | : yes.

Does the disney character have the following attribute: is_princess? | : no.

Does the disney character have the following attribute: has_father? | : yes.

Does the disney character have the following attribute: wears_yellow_dress? | : yes.

Does the disney character have the following attribute: got_married? | : yes.

Does the disney character have the following attribute: is_strong_and_brave? | : yes.

Does the disney character have the following attribute: is_English? | : yes.

Does the disney character have the following attribute: lives_in_jungle? | : yes.

Does the disney character have the following attribute: loves_animal? | : yes.

Does the disney character have the following attribute: is_animal_researcher? | yes.

Does the disney character have the following attribute: is_wife_of_Tarzan? | : yes.

| I guess that the disney character is:

| jean

