Diagnosis Expert System

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Outline

INTRODUCTION

An expert system is a computer software that mimics the decision-making abilities of a human expert. By doing so, it mimics the behavior of a human expert, using human knowledge to solve problems that would normally require human intelligence.

What is Diagnosis Expert System(DExS)

A Diagnosis Expert System (DExS) can substantially aid in the identification of diseases and the description of treatment methods while taking into account the user's ability to cope with and engage with the expert system in a simple and plain manner.

How can the DExS program applied?

The DExS Technique can be applied in consultations since it immediately displays the diagnosis and clarifies of results ,then expert system store "exploratory knowledge, and it will come to a conclusion about the diagnosis based on the user's responses to certain questions posed by the system.

MEDICALNEWSTODAY

COVID-19 vs. Flu vs. Cold

	COVID-19	Flu	Cold
Incubation period	2–14 days	1–4 days	1–3 days
Symptom onset	Gradual	Abrupt	Gradual
Cough	Common	Common	Mild to moderate
Shortness of breath	Common	Sometimes	Mild
Fever	Common	Common	Rare
Fatigue	Common	Common	Sometimes
Runny nose	Sometimes	Sometimes	Common
Nasal congestion	Sometimes	Sometimes	Common
Diarrhea	Sometimes	Sometimes	Rare
Body aches	Sometimes	Common	Slight
Sore throat	Sometimes	Sometimes	Common
Headache	Sometimes	Common	Rare
Loss of appetite	Sometimes	Common	Sometimes
Respiratory issues	Common	Sometimes	Sometimes
Chills	Sometimes*	Fairly common	Uncommon
New loss of taste or smell	Sometimes	Sometimes	Sometimes

*including repeated shaking with chills

Screenshots of solving proplem

```prolog
24      check(chills),
25      check(headache),
26      check(body_aches),
27      check(cough),
28      check(fatigue),
29   write("inclubation period is 1-4 days take antiviral drugs 2 time for 5 days,
30   for watry eays you take antihstamine helpful for your flu,
31   stay home and u may use cold compresses for the fever because "),nl.
32   covid :-
33      check(loos_of_taste/smell),
34      check(fever),
35      check(lossing_appetite),
36      check(chills),
37      check(headache),
38      check(shortness_of_breath),
39      check(cough),
40      check(respiratory_issuse),
41   write("inclubation period is 2-14 days
42   there is no cure discovered just eat well ,sleep well ,
43   drink plenty of fluids, open windos if u breathless  because "),nl.
44
45   ask(Q):-
46      write("dear patient do you have this Symptom: "),
47      write(Q) write('?') read(Answer) nl
```

dear patient do you have this Symptom: cough?

y

dear patient do you have this Symptom: nasal_congestion?

y

dear patient do you have this Symptom: respiratory_issuse?

y

dear patient do you have this Symptom: lossing_appetite?

y

inclubation period is 1-3 days so dont woory just take panadol , rest and drink hot drinks because
after checking your symptoms i think u have: cold
thats it take care and remmber Prevention is better than cure

true

?- im_sick.

Examples▴ History▴ Solutions▴

☑ table results Run!

⚠ Raneem Alomari ✕ +

```prolog
33        check(loos_of_taste/smell),
34        check(fever),
35        check(lossing_appetite),
36        check(chills),
37        check(headache),
38        check(shortness_of_breath),
39        check(cough),
40        check(respiratory_issuse),
41  write("inclubation period is 2-14 days
42  there is no cure discovered just eat well ,sleep well ,
43  drink plenty of fluids, open windos if u breathless  because "),nl.
44
45  ask(Q):-
46        write("dear patient do you have this Symptom: "),
47        write(Q),write('?'),read(Answer),nl,
48        ((Answer==yes;Answer==y)->assert(yes(Q));
49        assert(no(Q)),fail).
50  :- dynamic yes/1,no/1.
51  check(Symptoms):-
52      (yes(Symptoms)->true;(no(Symptoms)-> fail;ask(Symptoms))).
53  undo :- retract(yes(_)),fail.
54  undo :- retract(no(_)),fail.
55  undo.
```

dear patient do you have this Symptom: cough?

`y`

dear patient do you have this Symptom: nasal_congestion?

`y`

dear patient do you have this Symptom: respiratory_issuse?

`y`

dear patient do you have this Symptom: lossing_appetite?

`y`

inclubation period is 1-3 days so dont woory just take panadol , rest and drink hot drinks because
after checking your symptoms i think u have: cold
thats it take care and remmber Prevention is better than cure

true   1

```prolog
?-  im_sick.
```
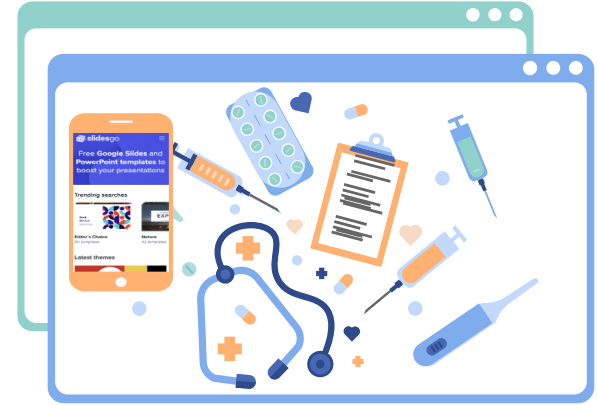
Examples▲ History▲ Solutions▲   ☑ table results Run!

conclusion

If you have any symptoms, you can consult a doctor through this system, and it will diagnose your medical condition in a quick, clear and direct way, while also assuring that the diagnosis is correct and reliable.

THANKS!

Any questions?