Verification of the Melon Treatment Expert System

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1. Introduction

This verification report based on the implementation code and the following technical reports:

1. Design of melon disorder Treatment (TR/CLAES/203/2001.3).
2. Implementation melon disorder Treatment (TR/CLAES/210/2001.4).

The activities used to produce this report are as follows:
1. Walking through the design report.
2. Walking through both the design report and implementation report then documenting the differences between them.
3. Summarize the result of testing usability of the system.
4. Conclusion.

2. Requirement Specification Report Versus Design Report

- There is no Requirement Specification Report.

3. Design Walkthrough

3.1 Domain Knowledge

- These instances are found in the domain model but is not found in the ontology:

Model	Rule	Page	Concept	Instances
Treatment	21, 64, 74	20, 24, 26		%

3.2 Task Knowledge

- In the (task-body) part, the (display-1) subtask is duplicated and the subtask (display-2) is not found.

- **Design Report Versus Implementation Report**

4-1- Domain Knowledge

DOMAIN ONTOLOGY

- In the implementation, each concept that is sub-concept of the disorder concept has property of (Treated_by, Associated Advices) , but these properties are not found in the design.
- In the design, the concept (   ) and its sub-concepts has the properties (-   ) these are found in the implementation report as (No_White_Fly, No_Of_Aphids) [and these Properties has no facets].
- These properties are found in the design report but are not found in the implementation report:

Concept	Property
disorders	Value
Pesticide	Application_method, treat_disorder, concentration

- These properties are found in the implementation report but are not found in the design report:

Concept	Property
Larva	Type (this property has no facets in the impl.)
disorders and its Sub-classes	confirmed
	Infection_pr
	Infection_pr
Pesticide	PesticiedsName

- These properties has facets, that are found in the design report, are different from that are found in the implementation report:

Concept	Property
Soil	Type

- These properties has possible values that are not found in the design report but are found in the implementation report:

Concept	Property
Plant	Age
Root	appearance

- These properties has different names in the implementation report from that is found in the design report:

Concept	Property in design	Property in implementation
fruits	ppearance	Appearance

- These concepts are found in the implementation report but are not found in the design report:

Concept
Fungal (or found in Arabic)
%
Advices
Physiological (or found in Arabic)
Viral (or found in Arabic)
Matrials
(Found as wp 50%)
Insect (or found in Arabic)
Acarosat (or found in Arabic)
Bacteria (or found in Arabic)
Nematoda (or found in Arabic)

Domain Model

- These domain Models are found in the implementation but are not found in the design:

Domain
CalculateAge
Suspected

Confirm

- These domain Models are found in the design but are not found in the implementation:

Model
Treat_by

- These rules have parts that are found in the implementation are different from that are found in the design:

Model	Rule	Rule in imp.
Recommend	R 12	Spiders.infection_status==" "
Recommend	R14	LeafMiner.Infection_pr<=5
Recommend	R15, R16	`Cucurbit_fruit_fly.Infection_pr<5`

- These rules that are found in the implementation are different from that are in found the design:

Model	Rule
Recommend	R17
Recommend	R18
Recommend	R19

- These rules are found in the implementation but are not found in the design:

Model	Rule
Recommend	R191, R192, R181, R182, R171, R172

- These Rules in the design are different from that found in the implementation:

Model	Rule	rule in design	rule in impl.
Treat	R18	هوستـاثـيـون ٤٠% + جريـش ذرة" **Trerat** الحفـار	**IF** @Hafar.Treated_By==" هوستـاثـيـون ٤٠% + ردة" **THEN** @HostasionAndBrain.Treat_Disorder=":"الحفـار

Treat	R34	%٥٠ ايفسكت)wp(TREAT (الذبابة البيضاء&المن&ذبابة ثمار القرعيات&صانعات الانفاق)	**IF** @WhiteFly.Treated_By==" ايفيسكت"|| @LeafMiner.Treated_By==" ايفيسكت"|| @Aphids.Treated_By==" ايفيسكت"|| @Cucurbit_fruit_fly.Treat ed_By==""ايفيسكت" **THEN** @Efeskt.Treat_Disorder=" ذبابة ثمار القرعيات"؛ @Efeskt.Treat_Disorder=" صانعات الأنفاق"؛ @Efeskt.Treat_Disorder=" المن"؛ @Efeskt.Treat_Disorder=" الذبابة البيضاء"؛

4-2- Inference Knowledge

- These Inference steps are not clear in the design but are found in the implementation:
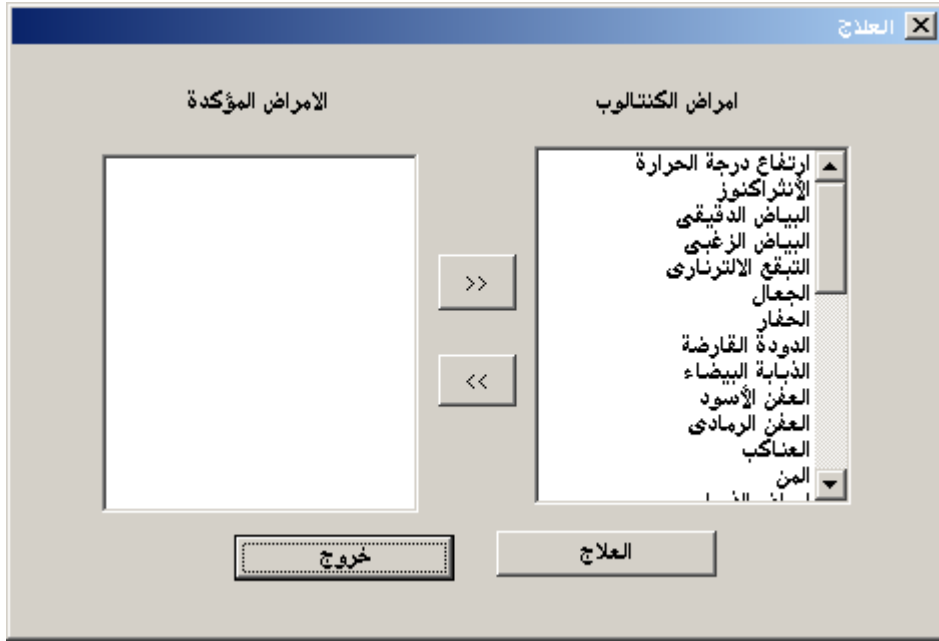
Inference step
IsRecommendedWhen
Treat
Recommend
Confirm
Suspect
Treated_by

4-3- Task Knowledge

- The implementation report has the code for the treatment task but the classes in the code should have the comments to be clear and enable me to follow the task control.

4-4- User Interface

- In the implementation the interface of the treatment has these displays only :
  1-

2-

3-

4. Testing the usability of the system

6-1- General Test

- This Part is included in the internal report of the integration of the melon system that has been sent to the development department.

6-2- Test cases

- This Part is included in the internal report of the integration of the melon system that has been sent to the development department.

5. Conclusions

We encourage that implementers should run the test cases before sending the system for testing.

The system is acceptable after making the necessary corrections.

6. note:

The running of system Package must be tested after implementing and before arrive it to testing department.