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Reviewing and Updating the Comments of Treatment Expert System of Melon

1. Introduction

This report is the response to the comments mentioned in the report number TR/CLAES/221/2001.6. The response is written in bold and italic after each comment.

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	مبيدات حشرية	سوبر رويال 95% مستحلب

- The instance 'سوبر رويال 95% مستحلب' was missed in the ontology.

3.2 Task Knowledge

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

- There is a typing error, the duplicated word (display-1) is (display-2).

4- Design Report Versus Implementation Report

4-1- Domain Knowledge

DOMAIN ONTOLOGY

- In the implementation, all the sub-concepts of the disorder concept have a definition of the following properties: Treated_by, Associated Advices. But these properties are not found in the design.

The all sons of the concept "disorder" inherit all its properties.

- In the design, the concept (الحشـرات) and all its sub-concepts have the properties (عـدد المن على الورقة-عدد الذبابة البيضاء إلى الورقة) which are found in the implementation report as (No_White_Fly, No_Of_Aphids). Also, these Properties have no defined facets.

The two properties (No_White_Fly, No_Of_Aphids) are defined in English definition because the tool depends on English definition for the properties.

- 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

- ***The property 'value' is changed to 'confirmed' in the disorder concept.***
- ***The properties of the "pesticide" concept are not used because it is implementation wise.***

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

Concept	Property	Comment
Larva	Type	This property has no defined facets in the impl.
disorders and its Sub-classes	confirmed	
دودة ورق القطن	Infection_pr	
صانعات الأنفاق	Infection_pr	
Pesticide	PesticiedsName	

- ***The property 'type' is inherited from the soil concept and this property has been deleted from the implementation because it is not used in the system.***
- ***The property 'value' is changed to 'confirmed' in the disorder concept.***
- ***The property 'infection_pr' in the two concepts 'دودة ورق القطن' and 'صانعات الأنفاق' are existed in the design but in Arabic.***
- ***It is implementation wise.***

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

Concept	Property
Soil	Type

  - ***This comment is not true because this property is not exist in the design and it will be deleted from the implementation.***

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

Concept	Property
Plant	Age
Root	appearance

  - ***The property 'Age' has no possible value because it is derived from the relation.***
  - ***The property 'appearance' is inherited from the concept plant, so it contains the possible value of concept plant and the concept root.***

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

Concept	Property in design	Property in implementation
fruits	ppearance	Appearance

  - ***This is typing error.***

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

Concept
Fungal (or found in Arabic)
نقص العناصر
سوبر رويال 95% مستحلب
Advices
Physiological (or found in Arabic)
Viral (or found in Arabic)
سلفات بوتاسيوم
ماغنيسيوم سائل

Matrials
ايفيسكت (Found as wp 50% ايفيسكت)
Insect (or found in Arabic)
Acarosat (or found in Arabic)
Bacteria (or found in Arabic)
Nematoda (or found in Arabic)

-The concept 'سوبر رويال 95% مستحلب ' is missed from the ontology.

- The concept 'ايفيسكت' has been updated in the implementation.

- ***The two concepts 'سلفات بوتاسيوم' and 'ماغنيسيوم سائل' have been deleted from the implementation because these concepts are not used.***
- ***All the remainder concepts exist in the design but in Arabic.***

Domain Model

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

Domain
CalculateAge
Suspected
Confirm

- All the above domain models exist in the implementation and belong to the diagnosis sub-system.

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

Model
Treat_by

- ***This domain models exist in the implementation but with different name. The correct name is 'treated_by'.***

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

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

- The design and implementation are the same but the tool is used the property name in English and Arabic.

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

Model	Rule
Recommend	R17
Recommend	R18
Recommend	R19

- This is implementation wise.

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

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

This is implementation wise.

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

Model	Rule	rule in design	rule in impl.
Treat	R18	"هوستاثيون 40% + جريش ذرة Trerat الحفار	IF @Hafar.Treated_By==" + 40% هوستاثيون ردة" THEN @HostasionAndBrain.Treat_Disor der=":"الحفار
Treat	R34	wp(TREAT (الذبابة 50%(ايفسكت البيضاء&المن&ذبابة ثمار القرعيات&صانعات الانفاق)	IF @WhiteFly.Treated_By=="||"ايفيسكت @LeafMiner.Treated_By=="||"ايفيسكت @Aphids.Treated_By=="||"ايفيسكت @Cucurbit_fruit_fly.Treated_By ==""ايفيسكت THEN @Efeskt.Treat_Disorder=" ذبابة ثمار القرعيات"; @Efeskt.Treat_Disorder=" صانعات الأنفاق"; @Efeskt.Treat_Disorder="المن"; @Efeskt.Treat_Disorder=" الذبابة البيضاء";

- All the above rules have been updated in the implementation.

4-2- Inference Knowledge

- The following Inference steps are not clear in the design but are found in the implementation:

Inference step
IsRecommendedWhen
Treat
Recommend
Confirm
Suspect
Treated_by

- The tool used the relation's names as inference steps.

4-3- Task Knowledge

- The implementation report has the code for the treatment task but the classes' code should have to have comments in order to be clear and this will help us to follow the task control.

4-4- User Interface

- In the implementation, the interface of the treatment has only the following (three) displays:

1- the first display:

2-the second display:

3- the third display:

- ***It is ok. The design and the implementation are the same.***

5. Testing the usability of the system

5.1 General Test

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

- All the comments in the internal report of the integration are solved.

5.2 Test cases

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

- All the comments in the internal report of the integration are solved.