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REVIEWING AND UPDATING THE COMMENTS OF MANGO DISORDER DIAGNOSIS EXPERT SYSTEM

1- Introduction

This reviewing and updating report based on the following technical reports:

1. Design of Mango disorder diagnosis (TR/CLAES/165/2000.10).
2. The abstraction model was used in (TR/CLAES/84/99.9).
3. Implementation Mango disorder diagnosis (TR/CLAES/111/2000.2)
4. Verification of Mango disorder diagnosis (**TR/CLAES/185/2000.12**).

2- Reviewing Design Walkthrough

2-1- Reviewing Domain Knowledge

- The following properties are found in the domain but they are not found in the ontology:

Model	Rule #	Concept	Property
Confirmation	R11	Complaint	Fruit status
Prediction	R14	Complaint	Fruit status

This comment is not true because this property is defined in the ontology.

Model	Rule #	Concept	Property
Confirmation	R17, R27	Leaves_obs	L_type

The correct property name is 'type' not 'L_type'.

- The following properties has no values in the model:

Model	Rule	Concept	Property
Confirmation	R17	Soil	Salinity

This comment isn't true.

- The following have duplications

Model	Rule
Confirmation	R21

This comment isn't true because there is no any duplications.

- The following Concepts are found in the domain but they are not found in the ontology:

Model	Rule	Concept
Confirmation	R27	Flower

The coorect name is 'Flowers_ob's not 'Flower'.

2.1 Inference Knowledge

- The following inferences step have different input roles and output roles when compatring the inference specification with inference structure:

Inference step	Input role in inference specification	Input role in inference structure	output role in inference specification	output role in inference structure	Static Role in inference specification	Static Role in inference structure
Abstract	Current date, plant age	Plantation description	Growth stages of mango crop	Plant	Abstraction model, Abstraction function model	Abstraction model,
Predict	Growth stages of mango crop	Plant	No difference	No difference	No difference	No difference
Generate Observation	Growth stages of mango crop	Plant	No difference	No difference		
	Suspected disorders	Not found	No difference	No difference		
Differentiate	Not found	Not found	Not found	Not found	Confirmed model	Differentiation model

This is not important, names in ifrence structure are just name

2.3 Reviewing Task Knowledge

- The inference "generate observation" is not used.

Ths comment is nottrue.

- The following properties are not found in the ontology:

Concept	Property
Plant	Planting_date

The planting_date property is defined in the plantation concept, which was defined in the (TR/CLAES/84/99.9) report.

3- Reviewing Design Report Versus Implementation Report

3-1- Reviewing Domain Knowledge

DOMAIN ONTOLOGY

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

Concept	Property
System1	Date

The correct name is 'current_date' not 'date'.

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

Concept	Property
system1	current_month, current_year, current_date

The current_month, and current_year properties were added for the sake of implementation.

- The following possible values are not found in the design report but are found in the implementation report:

Concept	Property	Values
Complaint	Fruit_status	وجود عفن
Fruits_obs	status	وجود عفن

Implementation is true.

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

Concept	Property in design		Property in implementation
Complaint	Trees_status, leave_stauts, fruit_status	leave_color, flower_status,	'حالة الاوراق', 'لون الاوراق', 'حالة الشجرة', 'حالة الثمار', 'حالة الازهار'
Fruits_obs	status		'حالة الثمار'
flowers_obs	status		'حالة الازهار'
Root_obs	status		'حالة الجذر'
	color		'لون الجذر'
Soil	Salinity		'الملوحة'
	Type		'نوع التربة'
	Water_table		'مستوى الماء الارضى'
Leaves_obs	Wax_color		'لون الطبقة الشمعية'
	Spot-color		'لون البقع'
	Spot_position		'موضع البقع'
	Status		'حالة الاوراق'
	Type		'نوع الاوراق'
Weather	Status		'حالة الطقس'

The names of these properties were translated into Arabic, because the interface language is Arabic not English.

- The following concepts have different names in the implementation report from that is found in the design report:

Concept in design	Concept in implementation
Fruits_obs	الثمار
Flowers_obs	الزهور
Root_obs	الجذر
Soil	التربة
Leaves_obs	الأوراق
Weather	الطقس

The names of these properties were translated into Arabic, because the interface language is Arabic not English.

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

Concept
Plantation

Implementation is true.

- In the implementation there is a switch between the values of the following rules

Rule #	Concept	Property	Value
rule30	الطقس	حالة الطقس	هبوب رياح ساخنة
rule 29	الطقس	حالة الطقس	وجود صقيع

This comment was solved in the design

Domain Model

- The following concepts in the design are different from that are found in the implementation:

model	Rule	Concept in design	Concept in implementation
Abstraction model	All rules	System	System1

Implementation is true.

- The following properties in the design are different from that are found in the implementation:

model	Rule	Concept	Property in design	Property in implementation
Abstraction model	All rules	System	Current date	Current month

This comment was solved previously.

3.2 Reviewing Inference Knowledge

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

Inference step
Generate observation

This inference step are builtin KROL

3.3 Reviewing Task Knowledge

- The following tasks in implementation are different from that are found in the design:

Task in design	Task in implementation
Get system date	Get system month

Implementation is true.

3.4 Reviewing User Interface

input dialogue
- The following items are found in the implementation but are not found in the design:

Item
Button "تشغيل النظام"
Combo boxes labeled "العرض" and "وصف العرض" in (rdiag_in_top_frm) and (rdiag_in_bottom_frm)

In the output dialogue
- The following items are found in the implementation but are not found in the design:

Item
The label of "شاشة إدخال الأعراض الأولية والآفات المشكوك فيها"
Button "موافق"
Button "الغاء"
Button "تشغيل النظام"
Combo boxes labeled "العرض" , "وصف العرض" and "أجزاء النبات" in (rdiag_out_top_frm) and (rdiag_out_bottom_frm)
The list labeled "الآفات المشكوك فيها" of (rdiag_out_right_hlst)

- The following items are found in the design but are not found in the implementation:

Item
Button "تالی" and "سابق" Button

The above modifications were done in the interface for the sake of enhancement.

4- Reviewing Implementation Report Versus Source Code

- There is no difference.

5- Reviewing Testing the usability of the system

General Test

- There are no errors in the system.

Test cases

Case

The output (الآفات المؤكدة) is not displayed.

This comment isn't true because the confirmed disorders appear correctly.

Case 3:

The output (الآفات المؤكدة) is not displayed.

This error occures because the soil = 'رملية' value was not included in the design, it was included in the implementation.

Case 4:

The output (الآفات المؤكدة) is not displayed.

This comment isn't true because the confirmed disorders list contains two disorders: اكاروس الاوراق ، الذبابة البيضاء. In fact, there is some error makes اكاروس الاوراق appears, so the rule no. 15 in the confirmation model was modified in the implementation where the الاوراق . حالة الاوراق

ترابية المظهر.