

Use Cases and Robustness Diagram for Image Recognition Project

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Open File

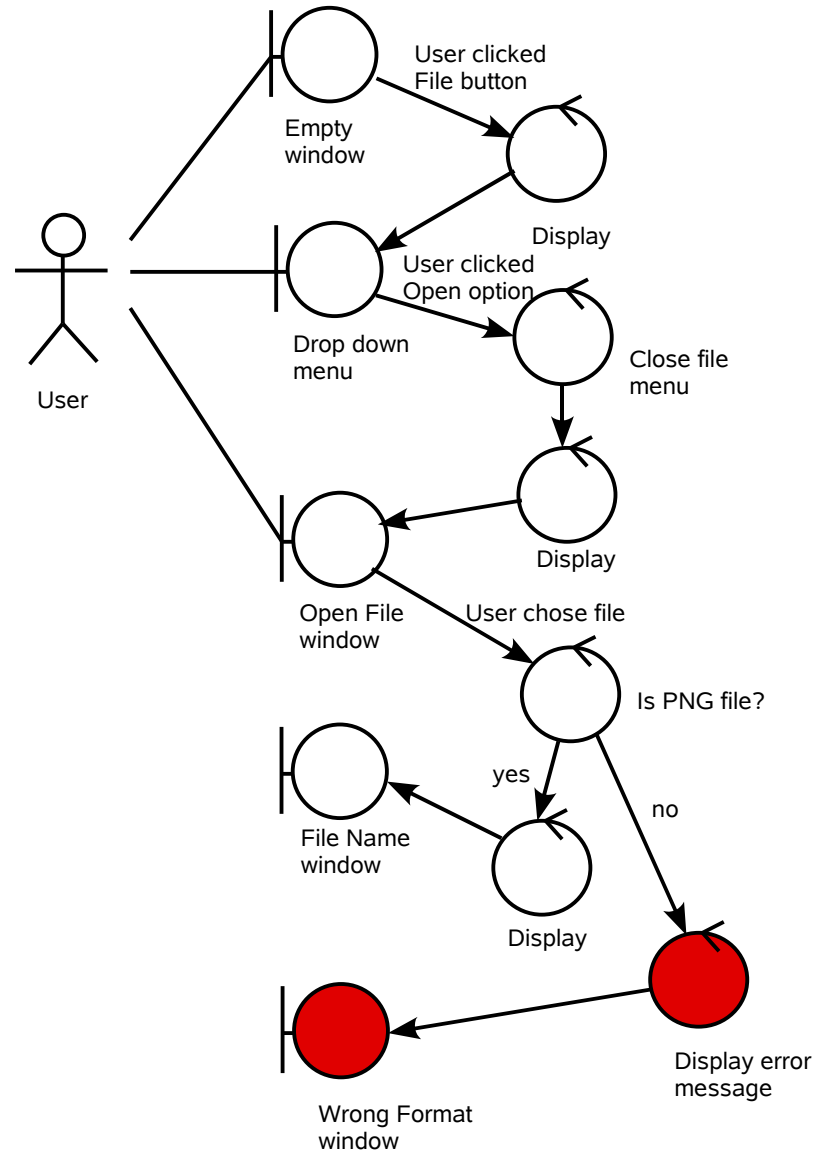
BASIC COURSE:

User clicks the File button. The system drops down the Menu with options. User clicks the Open option. The system closes the open menu and displays "Open File" window. User chooses the image file in PNG format from the directory tree. The system checks that the file is in PNG format and opens the file in the File Name window.

ALTERNATE COURSES:

User opens the wrong file: When user opens non-PNG file or PNG file with wrong name the system displays the window with the error message.

User opens the same file again: The system warns that the same file cannot be opened in multiple windows.



ENTRY CONDITION:
User clicks the button "Open".

EXIT CONDITIONS:
The system opens the image file in File Name window.

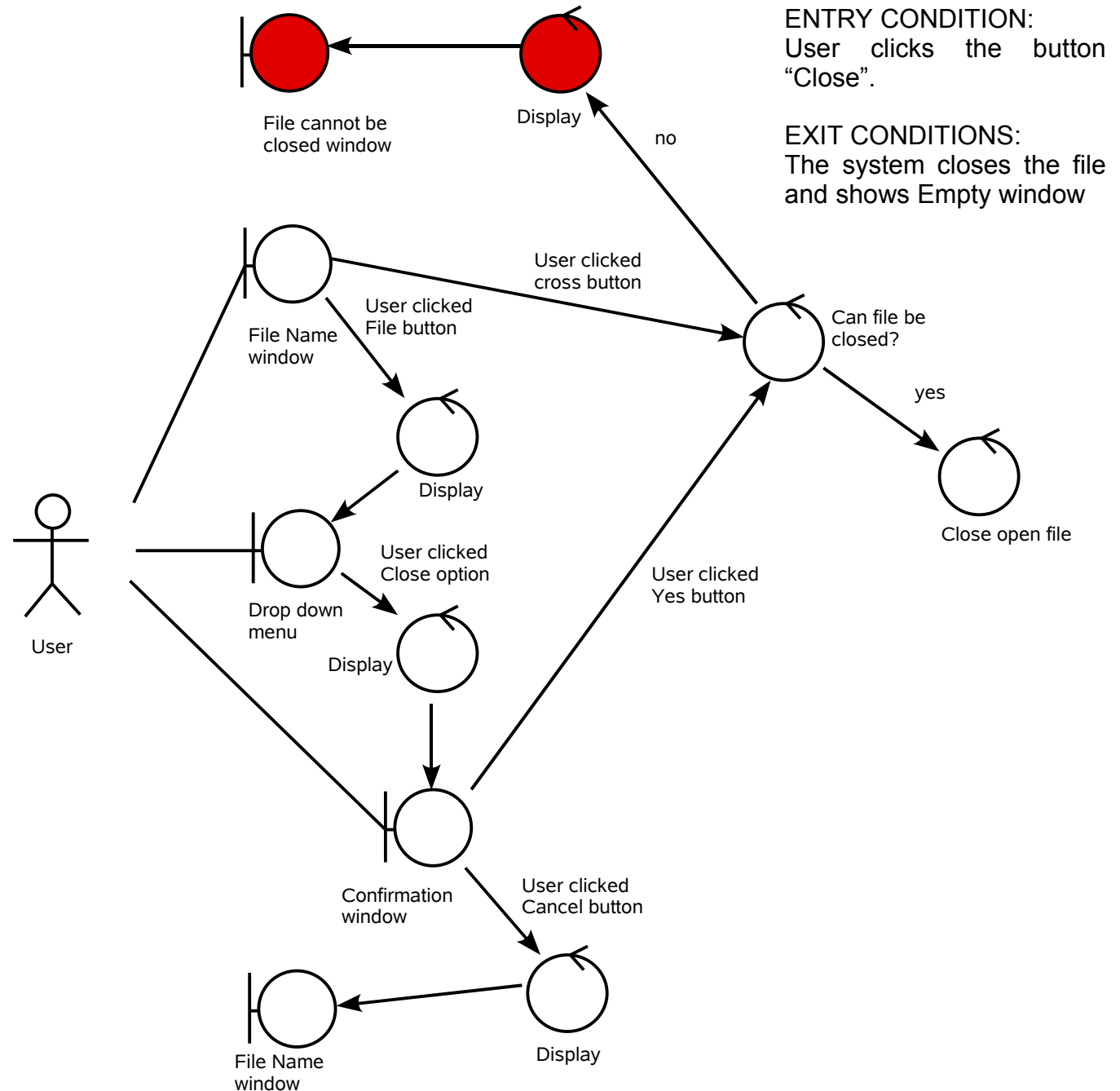
Close File

BASIC COURSES:

On the File Name window
 User clicks the File button.
 The system drops down the Menu with options.
 User clicks the Close option OR User clicks the cross button "Close Window" on the upper right corner. The system displays the confirmation window asking if the User wants to close the file. If the User clicks OK the system closes the the File Name window with open file. If the User clicks Cancel the system returns to the FileName.png window

ALTERNATE COURSES:

File used by the system:
 The system displays the "File cannot be closed" window that the file cannot be closed at this time



Quit Program

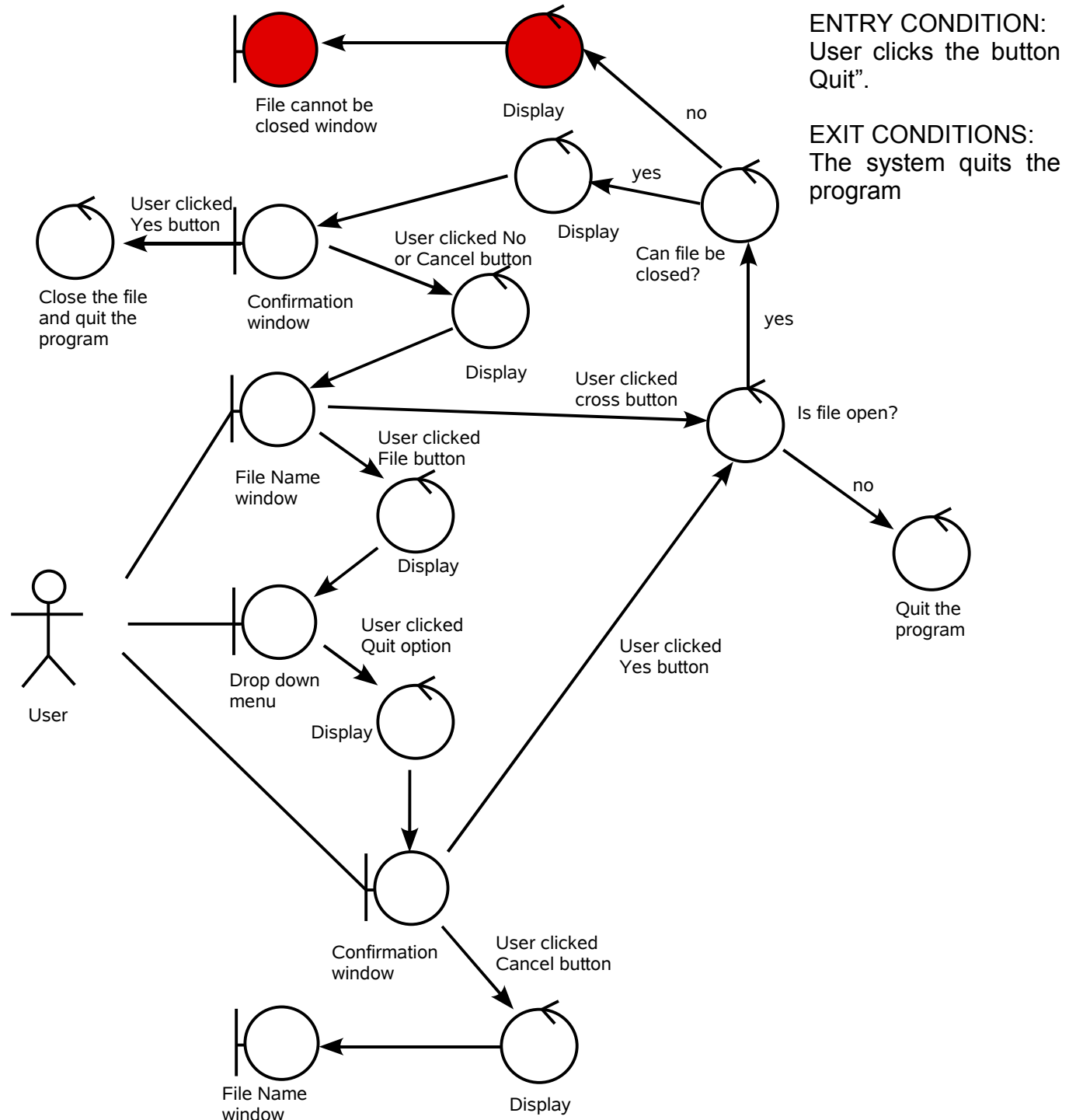
BASIC COURSE:

On the File Name window User clicks the File button. The system drops down the Menu with options. User clicks the Quit option. The system closes the open menu and displays the confirmation window. User can click the button "Yes" if she wants to close the program. The system checks if the file is open and closes the program. The user can click the "Cancel" button. The system closes the confirmation message and returns to the previous state.

If the file is open the system displays the notification window asking whether the User wants to close the file with the program. User can click the button "OK" if she wants to close the program with the file. The system closes the program with the file. The user can click the "Cancel" button. Then the system closes the warning message and returns to the previous state.

ALTERNATE COURSES:

File used by the system: The system displays the "File cannot be closed" window that the file cannot be closed at this time



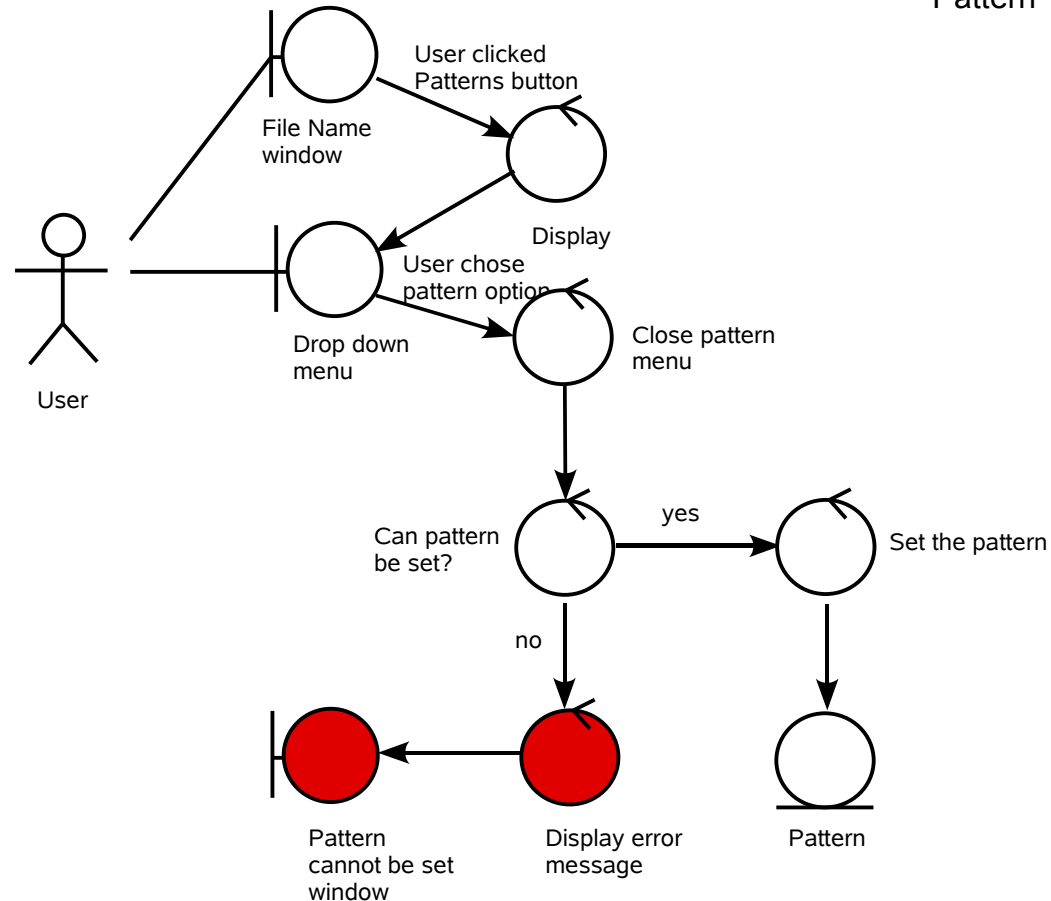
Choose Pattern

BASIC COURSE:

On the File Name window User clicks the button Patterns. The system drops down the Menu with pattern options. The User clicks one of the options "Circle", "Square" or "Triangle" (only one option can be set at a time). The system sets mark in front of the chosen option and closes the pattern menu.

ALTERNATE COURSES:

Pattern changed during the recognition process: The system displays the "Pattern cannot be set" window.



ENTRY CONDITION:
User chooses the pattern.

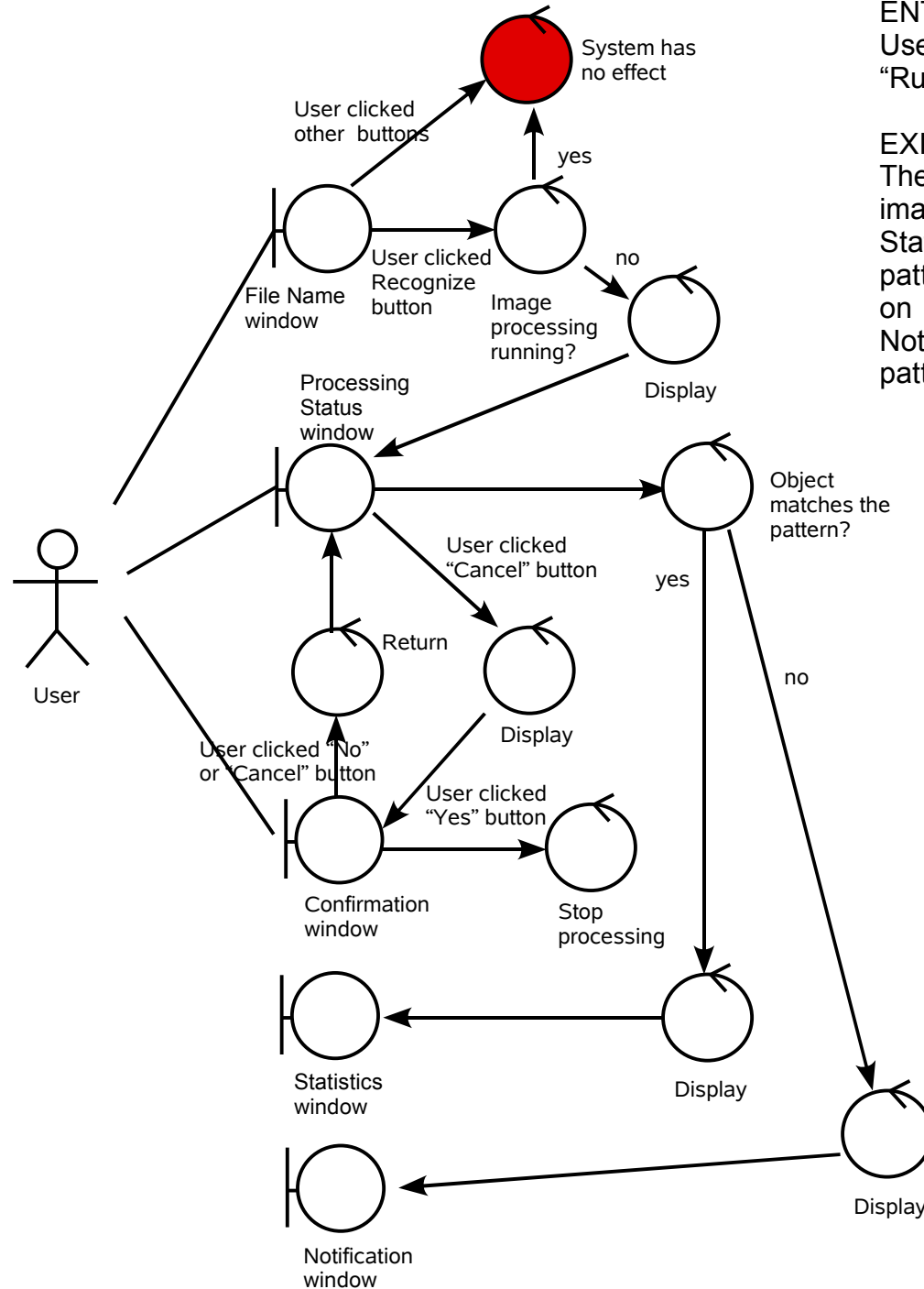
EXIT CONDITIONS:
The system sets the Pattern

Recognize Image

BASIC COURSE:
 On the File Name window User clicks the "Recognize" button. System displays the Processing Status window to shows the status of the recognition process. After completion of the recognition process the system shows the graph that displays the Statistics of the recognized image if the object that matches the pattern OR notification window if the image does not have object that matches the Pattern.

When the User clicks the button "Cancel" on the Processing Status window the system displays the Confirmation window. If the User clicks "Yes" button the system stops the image processing. If the User clicks "No" or "Cancel" buttons the system returns to the Processing Status window.

ALTERNATE COURSES:
User clicks other buttons: The system continues to process the image unless User invokes Close File or Quit Program use cases.



ENTRY CONDITION:
 User clicks the button "Run".

EXIT CONDITIONS:
 The system processes the image and displays Statistics Window is the pattern matches the object on the image and Notification Window if pattern was not recognized

Save Statistics

BASIC COURSE:

On the window "Statistics" the User clicks the button "Save". The system displays the "Save Statistics" window. User can choose two formats to save the statistics: graphic (PNG) and text (SVG) formats and click the button "Save". The system saves the statistics in the chosen format. User can click the button "Cancel". The system then closes the window "Save Statistics" and returns to the window "Statistics".

ALTERNATE COURSES:

Errors when writing to disk:
The system displays the error window with the message that the statistics cannot be saved. User clicks the button "OK". The system returns to the window "Statistics".

ENTRY CONDITION:
User clicks the button "Save".

EXIT CONDITIONS:
The system saves statistics to the persistent storage

