

Chapter 7

Testing

A.S.C.A.D. is a software tool that deals in a medical context, and hence must include minimal errors. To achieve such accuracy, the software needs to be tested well.

Software testing is a process of executing a program or application with the intent of finding software bugs. In other words, testing is executing a system in order to identify any gaps, errors, or missing requirements in contrary to the actual requirements.

7.1 Test cases

Test Case	Expected Result	Actual Outcome	Result
Blank patient name	Error : Please enter the Patient name.	Error : Please enter the Patient name.	Success
Blank patient age	Error : Please enter the age of the patient.	Error : Please enter the age of the patient.	Success
Invalid patient age	Error : Please enter a valid age of the patient.	Error : Please enter a valid age of the patient.	Success
Blank doctor name	Error : Please enter the name of the doctor or medical practitioner who advised the test. Enter N.A. in case of self test.	Error : Please enter the name of the doctor or medical practitioner who advised the test. Enter N.A. in case of self test.	Success
Blank image path	Error : Image path empty. Please browse to the input image.	Error : Image path empty. Please browse to the input image.	Success
Trying to enter an invalid image path.	The user must only be allowed to enter a legal path.	The text box to enter the path to the input image is disabled. As a result, the user has to browse to the image using the 'Browse' button.	Success

Table 7.1.1. Test case table

7.2 Type of testing used

Black box testing:

Black-box testing is a method of software testing that examines the functionality of an application without peering into its internal structures or workings. This method of test can be applied to virtually every level of software testing: unit, integration, system, functional and acceptance.

- Functional testing

Functional testing is a quality assurance (QA) process and a type of black box testing that bases its test cases on the specifications of the software component under test. Functions are tested by feeding them input and examining the output, and internal program structure is not considered. Functional testing tests a slice of functionality of the whole system.

Test cases:

1. Blank patient name

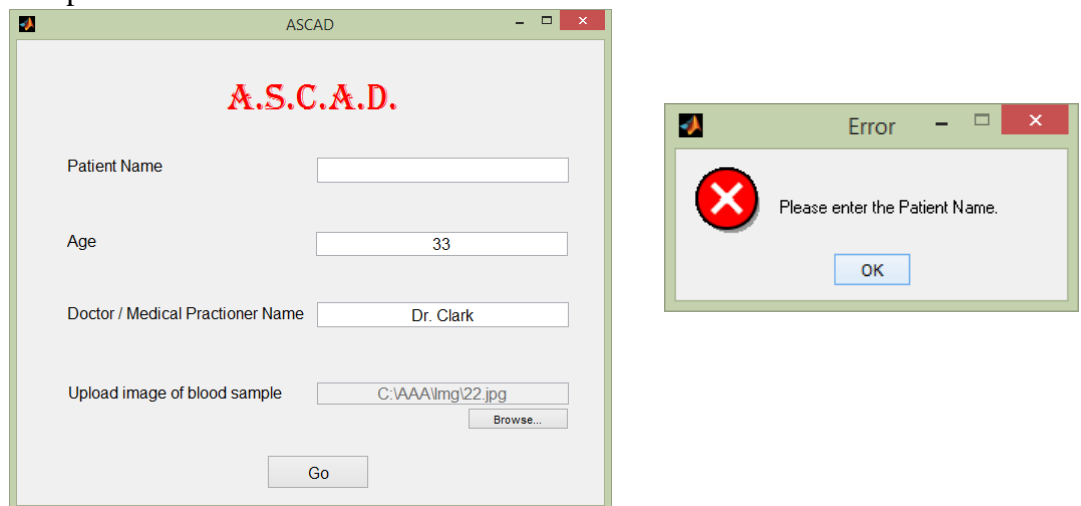


Fig. 7.2.1. Testing : Blank patient name

2. Blank patient age

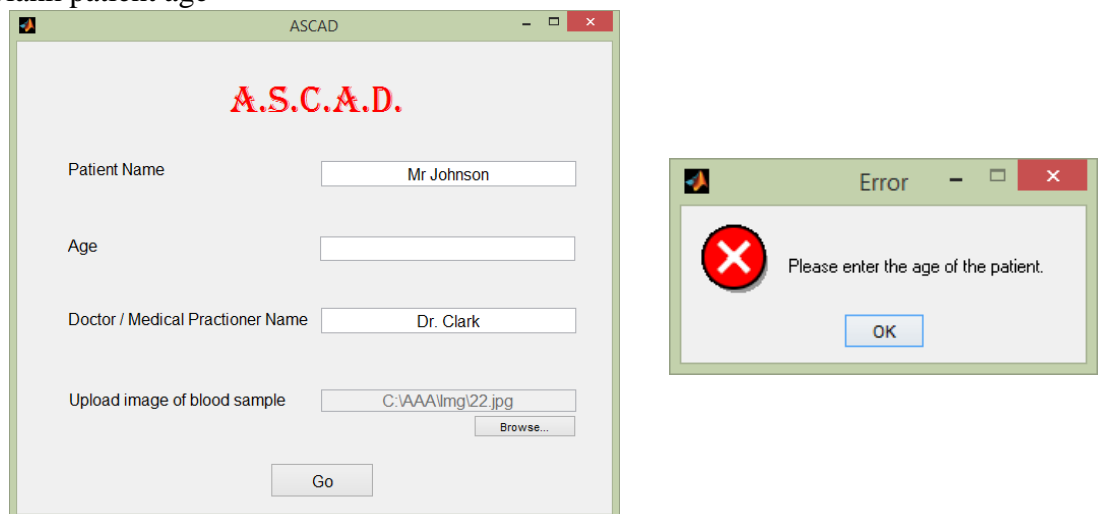


Fig. 7.2.2. Testing : Blank patient age

3. Invalid patient age

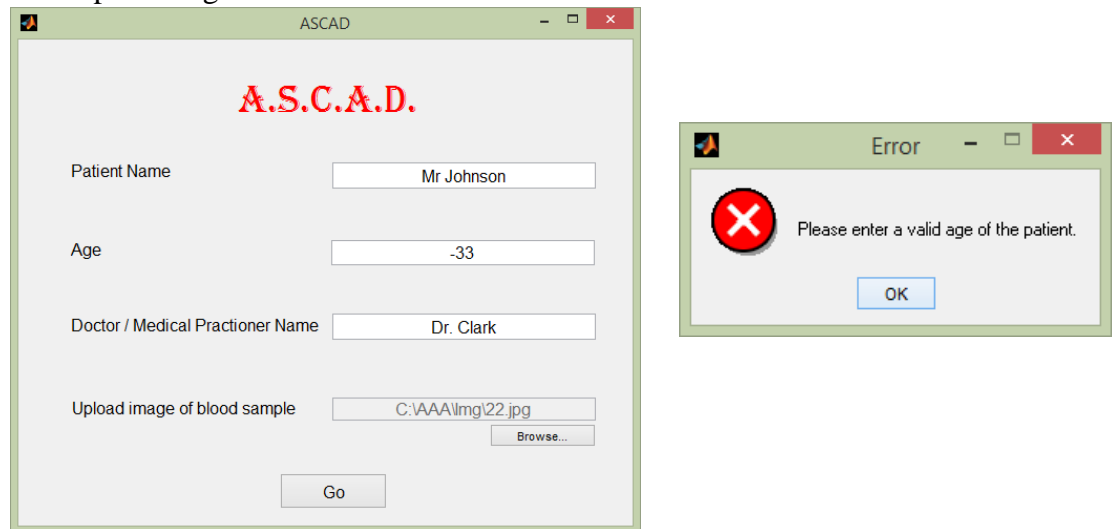


Fig. 7.2.3. Testing : Invalid patient age

4. Blank doctor name

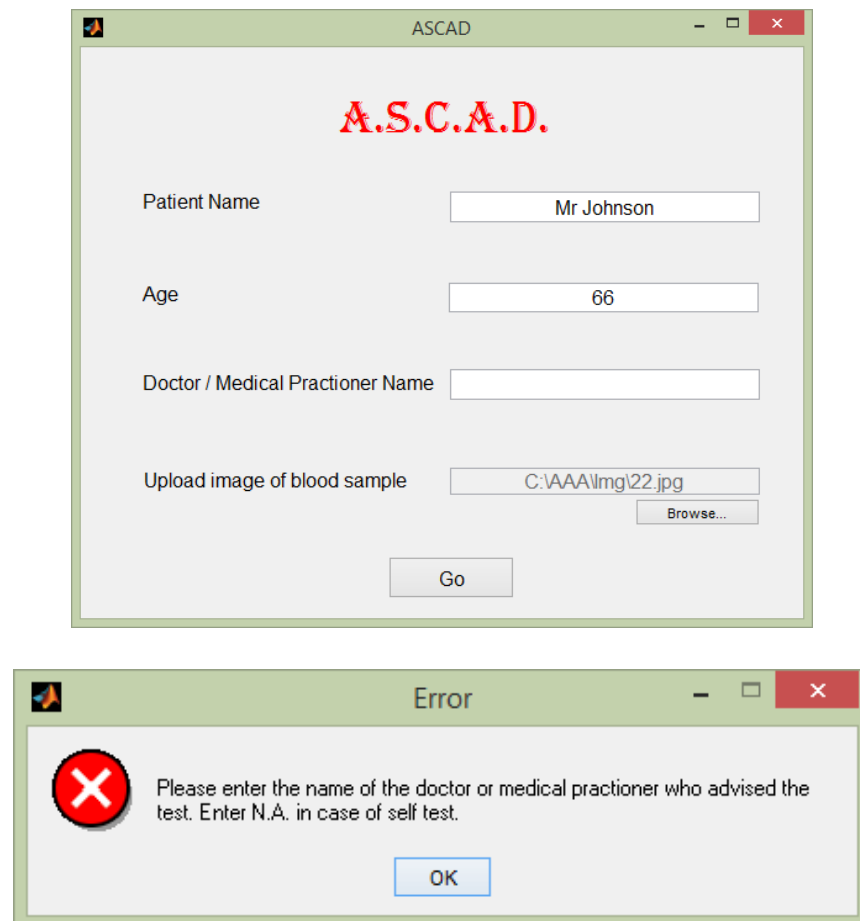
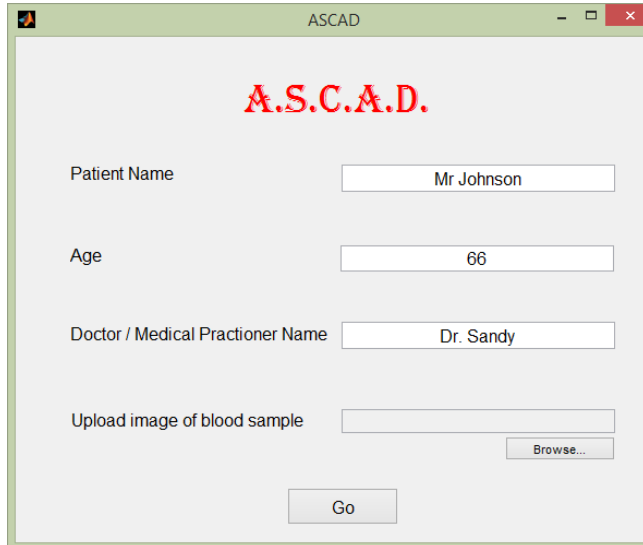


Fig. 7.2.4. Testing : Blank doctor name

5. Blank image path



ASCAD

A.S.C.A.D.

Patient Name

Age

Doctor / Medical Practitioner Name

Upload image of blood sample

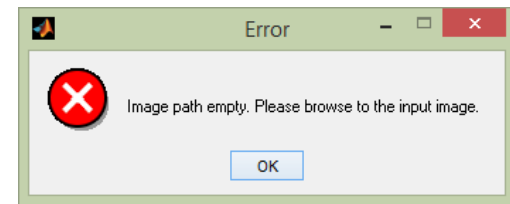
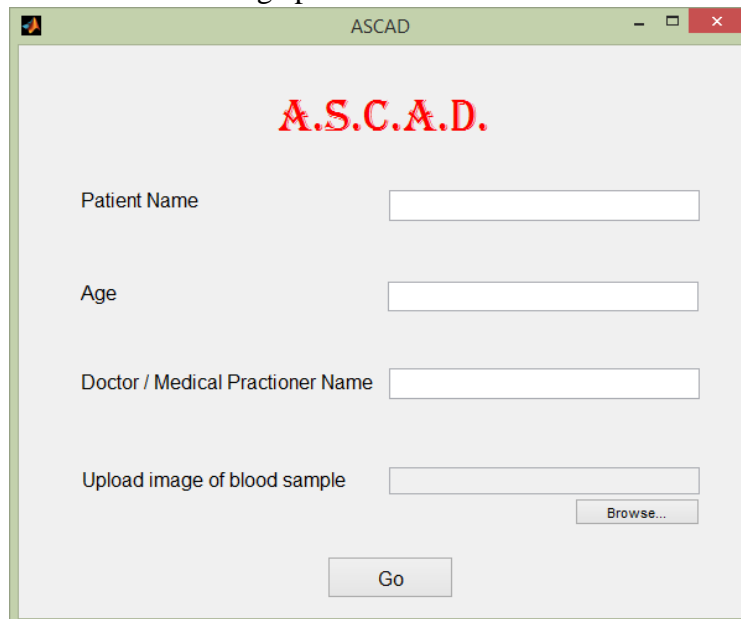


Fig. 7.2.5. Testing : Blank image path

6. Trying to enter an invalid image path.



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A.S.C.A.D.

Patient Name

Age

Doctor / Medical Practitioner Name

Upload image of blood sample

Fig. 7.2.6. Testing : Trying to enter an invalid image path