USER INTERFACE TESTING

What is User Interface Testing?

User interface testing, a testing technique used to identify the presence of defects is a product/software under test by using Graphical user interface [GUI].

GUI Testing - Characteristics:

- GUI is a hierarchical, graphical front end to the application, contains graphical objects with a set of properties.

- During execution, the values of the properties of each objects of a GUI define the GUI state.

- It has capabilities to exercise GUI events like key press/mouse click.

- Able to provide inputs to the GUI Objects.

- To check the GUI representations to see if they are consistent with the expected ones.

- It strongly depends on the used technology.

GUI Testing - Approaches:

- **Manual Based -** Based on the domain and application knowledge of the tester.

- **Capture and Replay -** Based on capture and replay of user actions.

- **Model-based testing -** Based on the execution of user sessions based on a GUI model. Various GUI models are briefly discussed below.

Model Based Testing - In Brief:

- **Event-based model -** Based on all events of the GUI need to be executed at least once.

- **State-based model -** "all states" of the GUI are to be exercised at least once.

- **Domain model -** Based on the application domain and its functionality.

GUI Testing Checklist:

- Check Screen Validations

- Verify All Navigations

- Check usability Conditions

- Verify Data Integrity

- Verify the object states

- Verify the date Field and Numeric Field Formats

GUI Automation Tools

Following are some of the open source GUI automation tools in the market:

Product	Licensed Under	URL
AutoHotkey	GPL	http://www.autohotkey.com/
Selenium	Apache	http://docs.seleniumhq.org/

Sikuli	MIT	http://sikuli.org
Robot Framework	Apache	www.robotframework.org
watir	BSD	http://www.watir.com/
Dojo Toolkit	BSD	http://dojotoolkit.org/

Following are some of the Commercial GUI automation tools in the market.

Product	Vendor	URL
AutoIT	AutoIT	http://www.autoitscript.com/site/autoit/
EggPlant	TestPlant	www.testplant.com
QTP	Hp	http://www8.hp.com/us/en/software-solutions/
Rational Functional Tester	IBM	http://www-03.ibm.com/software/products/us/en/functional
Infragistics	Infragistics	www.infragistics.com
iMacros	iOpus	http://www.iopus.com/iMacros/
CodedUI	Microsoft	http://www.microsoft.com/visualstudio/
Sikuli	Micro Focus International	http://www.microfocus.com/