



Usability and GUI testing

February 5, 2020

Agenda



Usability Testing

Types of Usability Testing Methods

GUI testing: approaches

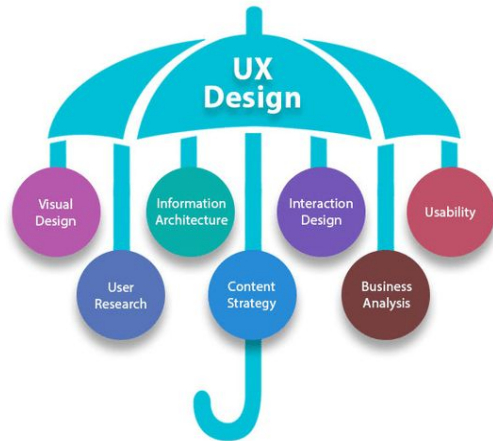
Usability vs GUI testing

Bad examples

Accessibility testing

Usability Testing

Usability is the ease of use and learnability of a human-made object. Wikipedia



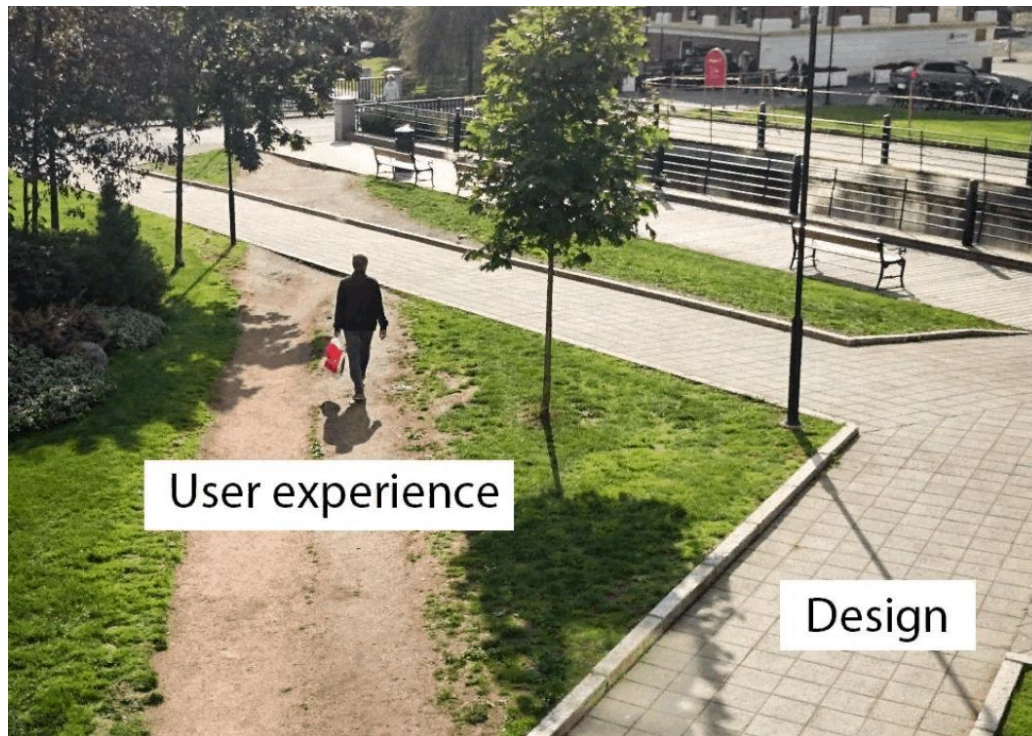
Usability is the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use. ISO 9241-11



Usability Testing. UX/UI

User experience (UX) is a person's emotions and attitudes about using a particular product, system or service

The user interface (UI) is the visual and technical elements of an interface, like the controls, the buttons etc that allow the user to interact with the product.



Usability Testing

Usability testing is testing to determine the extent to which the software product is understood, easy to learn, easy to operate and attractive to the users under specified conditions. (ISO 9126)

Main goal of usability testing is collection of qualitative and quantitative indicators of software usability and detection of critical bugs of the product.



What can be tested

- end-product (web sites, applications)
- application interfaces (API), which are used in development

Usability testing can be performed at different levels of software development: modular, integration, system and acceptance.



Types of Usability Testing Methods

**Hallway
Testing**

**Remote
Usability
Testing**

Expert Review

**Paper
Prototype
Testing**

**Questionnaires
and Interviews**

**Do-it-Yourself
Walkthrough**

**Controlled
Experiments**

**Automated
Usability
Evaluation**

Usability testing



Advantages:

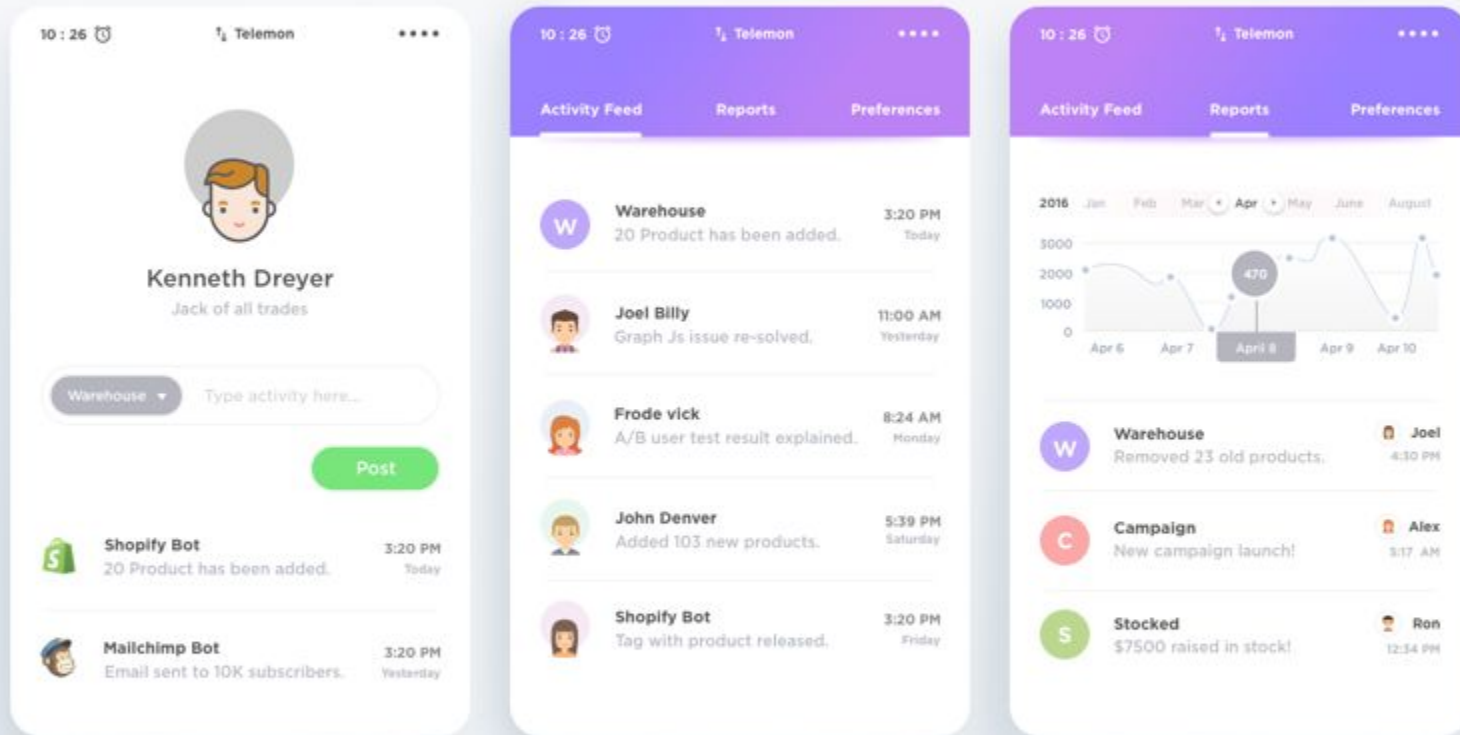
- It helps uncover usability issues before the product is marketed.
- It helps improve end-user satisfaction.
- It makes your system highly effective and efficient.
- It helps gather true feedback from your target audience who actually use your system during usability test. You do not need to rely on "opinions" from random people.

Disadvantages:

- requires some planning on the testers' part.
- requires a lot of time
- can be very expensive

GUI testing

Graphical User Interface (GUI) testing is the process of testing a product's graphical user interface to ensure it meets its specifications.



What do you Check in GUI Testing?

- ❖ Navigation
- ❖ Formatting
- ❖ Color and fonts
- ❖ Scrolls
- ❖ Controls and alignments
- ❖ Spelling and grammar
- ❖ Default and shortcut keys
- ❖ Behavior of controls
- ❖ Contrast
- ❖ Images
- ❖ Error messages



User Interface Testing

Approaches of GUI Testing

Manual Based Testing

- Under this approach, graphical screens are checked manually by testers in conformance with the requirements stated in the business requirements document.

Record and Replay

- GUI testing can be done using automation tools. This is done in 2 parts. During Record, test steps are captured by the automation tool. During playback, the recorded test steps are executed on the Application Under Test.

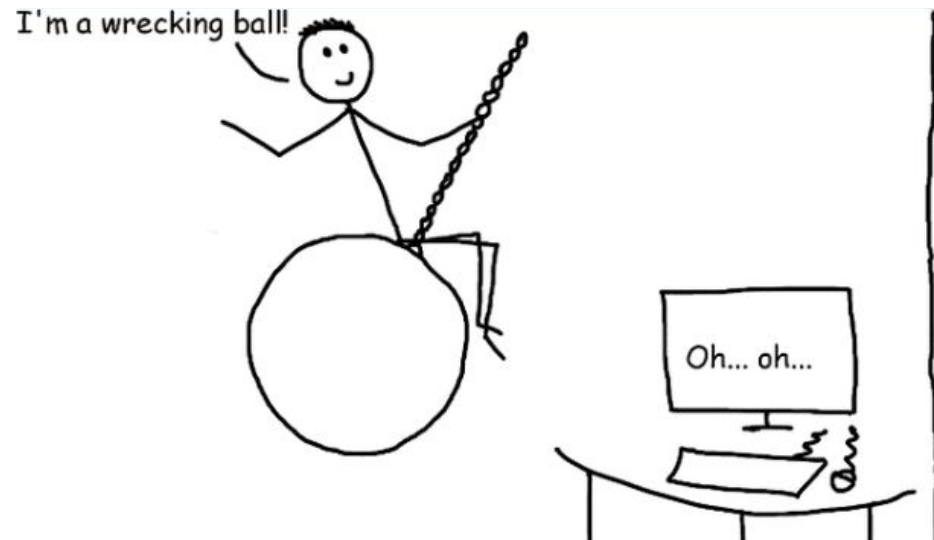
Specific of GUI Testing

Challenges:

- ❖ GUI changes frequently
- ❖ documents regarding GUI changes can be updated with delays or absent
- ❖ complicated Regression testing

GUI Testing Tools:

- ❖ Selenium
- ❖ Cucumber
- ❖ TestComplete
- ❖ Robot Framework
- ❖ etc.



Usability vs GUI testing

Usability testing

- The project quality is checked;
- Convenience of project is tested;
- Focused on the end user;
- Overall working of application according to a non-technical user's point of view.

GUI testing

- Project interface is tested;
- Fulfil clients requirement;
- Performed on various platforms;
- GUI Testing taking account of the product form and look;
- Test only the front end of the application.

Bad examples



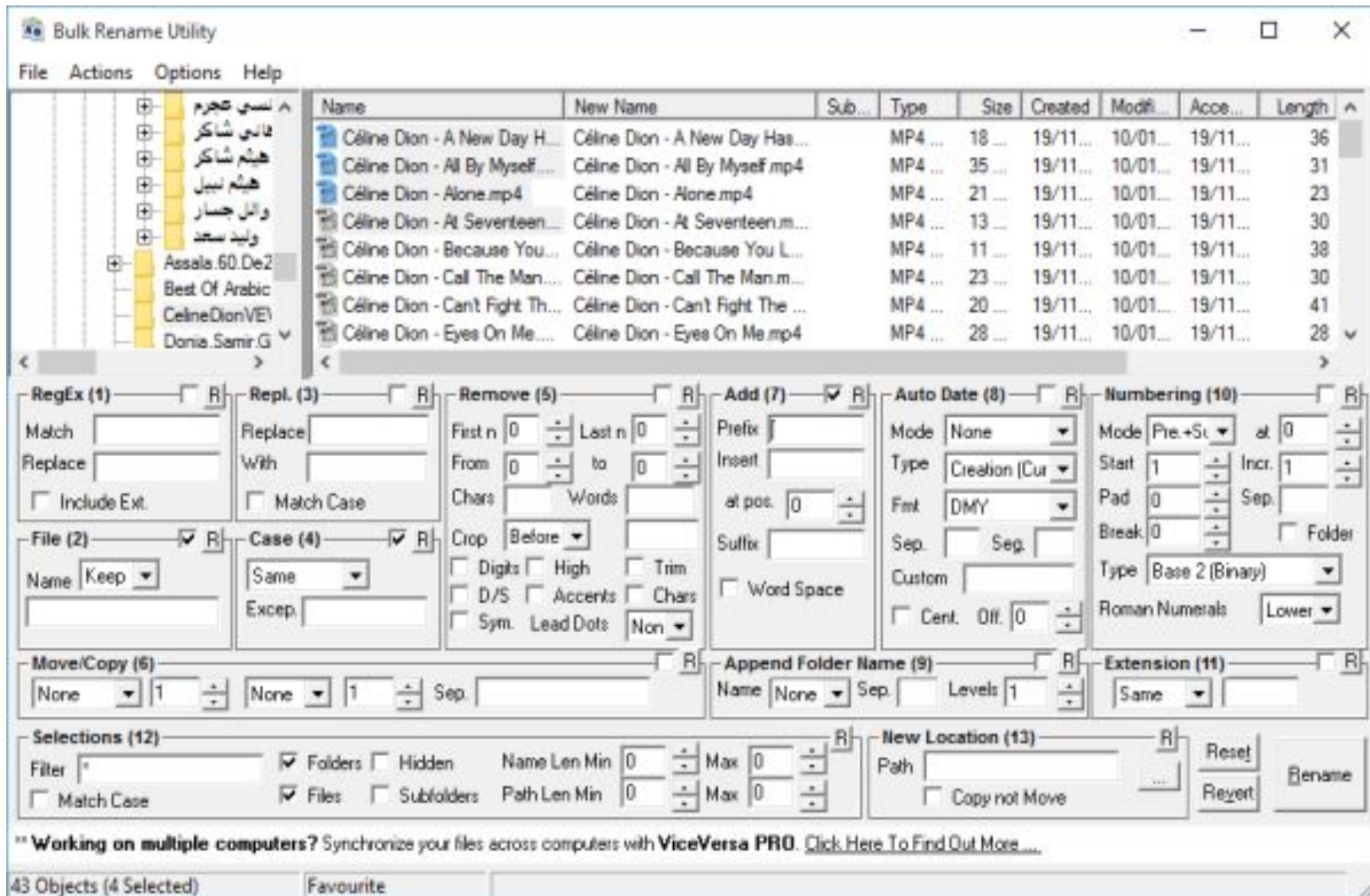
Bad examples



Bad examples

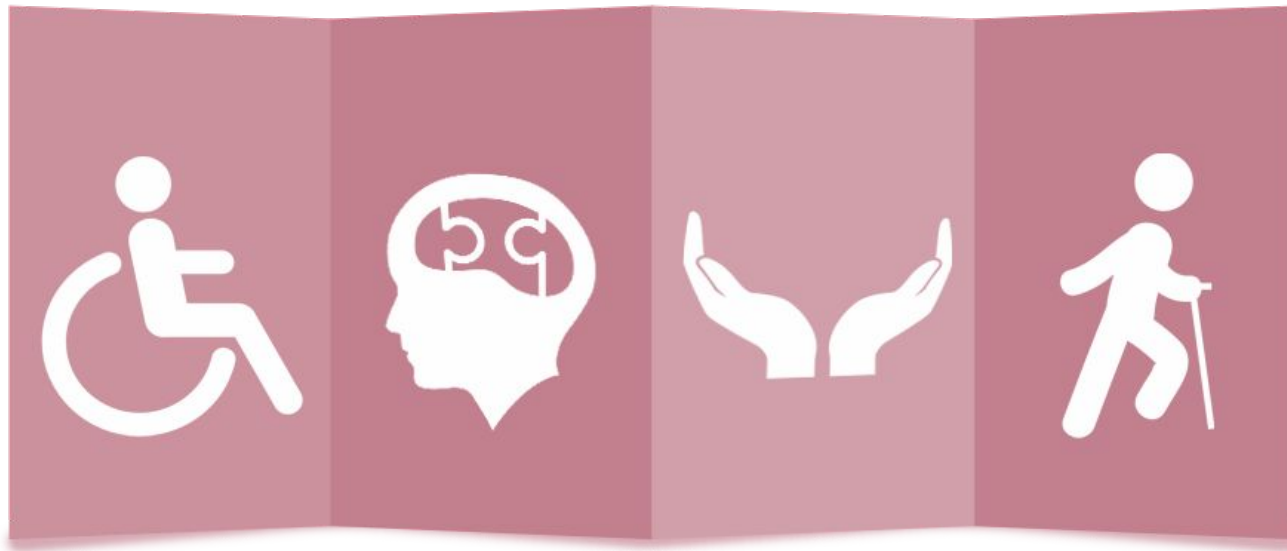


Bad examples



Accessibility testing

Accessibility Testing is performed to ensure that the application being tested is usable by people with disabilities like hearing, color blindness, old age and other disadvantaged groups. It is a subset of Usability Testing.



Challenges of Accessibility Test

Vision Disability	<ul style="list-style-type: none">- Complete Blindness or Color Blindness or Poor Eyesight- Visual problems like visual strobe and flashing effect problems
Physical Disability	Difficult to use a keyboards or mouse
Cognitive Disability	Learning difficulties or poor memory
Literacy Disability	Reading problems, find words difficult
Hearing Disability	<ul style="list-style-type: none">- Auditory problems like deafness and hearing impairments- Difficulty to hear well or hear clearly

Simple Example Techniques

Verification
of page title

Image text
alternatives
("alt text")

Headings

Contrast
ratio ("color
contrast")

etc.

Accessibility Testing Tools



Accessibility Developer Tools

Offered by: Google Accessibility



Accessibility Valet Demonstrator

Check a Document by URL

URL:

Test Suite: Report Format:

Mail copy of report (subscribers only)

Useful links

<http://www.guru99.com/gui-testing.html>

<http://testingbasicinterviewquestions.blogspot.com/search/label/GUI%20Testing>

<https://www.ranorex.com/resources/testing-wiki/gui-testing>

<http://www.guru99.com/usability-testing-tutorial.html>

<http://usabilitygeek.com/an-introduction-to-website-usability-testing/>

<https://www.guru99.com/accessibility-testing.html>

<https://www.softwaretestinghelp.com/what-is-web-accessibility-testing/>

Home task

Найти сайт с плохим юзабилити (н-р: <https://www.lingscars.com/> или <http://www.arngren.net/>), написать чек лист для тестирования юзабилити сайта, протестировать сайт в соответствии с чек листом, оформить 2-3 баг репорта и дать рекомендации по улучшению.

Deadline is:
18-00

12/02/2020

Questions

