Google Testing Strategy

1. **Main Golas:**

Main purposes of Testing Google Browser Site are:

* Providing information about web application quality
* Cover the critical path of web application with smoke and regression tests
* Provide the usability and functional testing for current solutions
* Provide information about page performance
* Provide the highest possible coverage of test levels

1. **Test limitations:**

Regarding the pyramid of tests during Google app testing occur several of limitations. According to the relevant test levels limitations are:

* **Unit Testing** – lack of access to source code and possibility to assess level of coverage. Test level currently is unable to introduce
* **Integration Testing** – lack of access to source code and project architecture. Based on white box testing there is no possibility to introduce testing of data flow between existing internal modules, DBs, and 3 party systems providers, if exists. Test level can be partially covered by black box end to end testing. For example: connection between search component and results page
* **System testing –** can be partially covered based on multi browser and multi operation systems testing for example: Linux, Windows, IOS, Android. Test level can be covered for example by automation testing with use of some platforms like Browsestack or Saucelab
* **Interface Testing (API)** – lack of documentation about existing endpoints, difficult to introduce, partially can be covered by Rest Assure or Postman testing after deeper investigation and analyse JSON files structure.
* **Functional Testing** – lack of access to Acceptance Criteria currently unable to introduce in relation to the new functionalities. There are no possibilities to compare current behaviour with assumptions. Can be covered partially based on experience and usability assumptions using end to end testing manual or automation. Also, can be covered by some non-functional testing with defined assumptions based on experience.
* **Acceptance Testing** – Alfa testing is unable to introduce as an endpoint user. Beta testing possible to Introduce as an external user.

1. **Testing process:**

* **Investigation Phase** – ad hoc and exploratory testing to get knowledge about existing system and define critical paths
* **Test Scenario Phase** – create test cases based on investigation, cover as a top priority critical paths for example connection between search and search results page. Scenarios can be written based on Test Scenario style, or BDD style - depends of business needs.
* **Test Scenario Triage Phase** – asses created test cases and find automation candidates. The main criteria for automation candidates: repetitive, part of regression, without many limitations because of 3rd party systems dependencies, assess cost efficiency of automate some path
* **Scripting of Automation Candidate test case** – provide a test scripts and integrate them to CI tool, automate runs of automation scripts based on business needs for example after each deploy, daily
* **Test Execution Phase and Bug Reporting Phase** – execute manual scripts related to logic smoke suite and regression. Report the bugs, keeping the rules described in point 4. After checking the logic introduce some ad hoc testing focused on GUI and style layer (fonts, margins, components properties like wrapping long character chains)
* **Bugs Report triage and reporting –** provide an information about blockers, critical, major and minor issues.

1. **Bugs reporting rules and lifecycle**

* Each bug before reporting should be reproduced, to find the clear and well described steps to recreate behaviour
* Bugs should be reported to the Google team using page

<https://support.google.com/?hl=pl>

* Bug report should contain following information:

1. Title
2. Description of steps to reproduce a bug
3. Current behaviour – defect description
4. Expected behaviour
5. Logs, screenshots
6. Web app version if possible to find, or time and date when bug was found
7. Priority and severity
8. Contact data (in case of fill additional information)

* After receiving an information that bug was resolved or behaviour is compliant with acceptance criteria, retest the bug to close a Bug Report or update existing test cases