MICHIGAN STATE
U N I V E R S I T Y

Project Plan
Taking Firefox Screenshots Testing Suite to 11

The Capstone Experience

Team Mozilla

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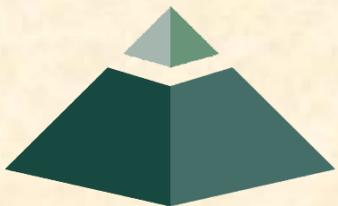
Functional Specifications

- Improve Firefox Screenshots Testing Suite to make it easier for developers to catch visual bugs and unintentional changes
- Increase functionality and reliability of screenshot testing tool
  - Add automated cropping
  - Add screenshot test cases
  - Better integrate output with Mozilla's testing frameworks
  - Reduce intermittent failures

Design Specifications

- The graphical components of the tool are outside the scope of the project
- The screenshot tool is command line based

Screen Mockup

- Like design specifications, screen mockups are not applicable to the project

- Mozilla's testing infrastructure does have tools to visualize test results, but are not part of this project

Technical Specifications

- Mozscreenshots extension
  - Ran by Mochitest
  - Manipulates Firefox UI
  - Responsible for taking and saving screenshots
  - Will apply cropping to these screenshots here
  - Will improve output to be more interpretable by other testing tools
- Mozilla's testing infrastructure
  - Web UI and command line tool for interpreting mozscreenshots's output
  - Largely outside the scope of this project

System Architecture
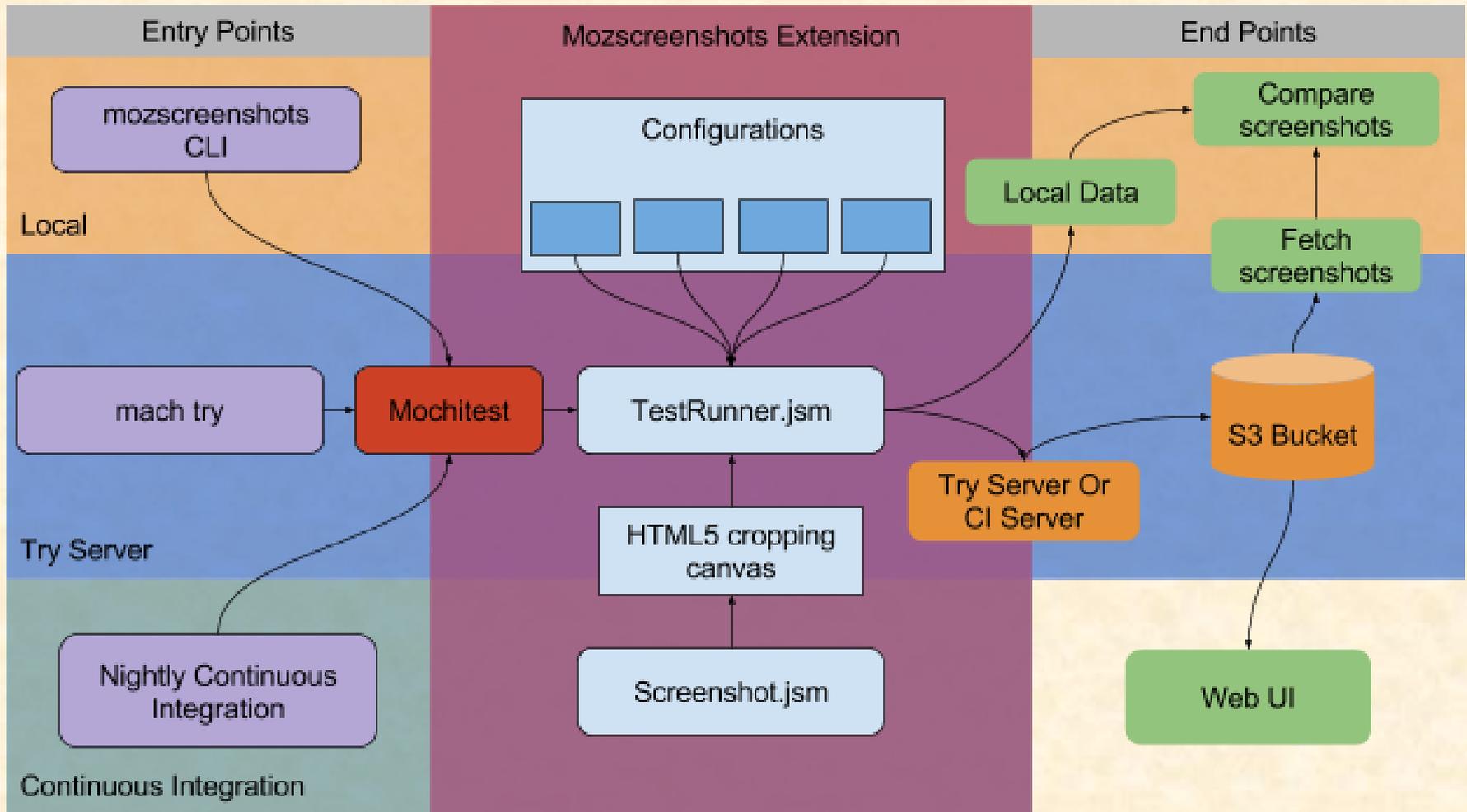
System Components

- Hardware Platforms
  - The project does not require specific hardware
- Software Platforms / Technologies
  - JavaScript, HTML5 Canvas, XUL, Python
  - Mercurial (VC), Bugzilla, IRC
  - Mochitest, Try servers
  - Largely implemented as Firefox legacy extension

Testing

- There is no testing framework for this tool

- Our contributions are reviewed by other developers of Firefox

- If there are problems with the tool, the Nightly community may be able to catch them

- Developing tests for the tool is not part of the specification, but could be a stretch goal

Risks

- Debugging intermittent failures
  - Recreating intermittent failures is difficult, and certain scenarios won't allow us to access the log files directly
  - Focus on fixing locally replicable issues, test on a broad range of systems, and client has agreed to attempt to provide copies of restricted log files
- Limited and disorganized documentation
  - Documentation is dispersed and sometimes non-existent
  - Communication with developers via IRC with questions concerning the software is vital. Also, all code written for this project will be kept in personal documentation
- Learning Mozilla specific technologies
  - Mozilla has many in-house technologies: JSM, XUL/XBL, Mach, Try servers, Mercurial
  - Identify the relevant technologies and restrict our focus to those

Questions?

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