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Computer Science Courses TIEA4 and TIETS19

Plussa GUI

Teachers' GUI to A-plus LMS

Product description

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1 Introduction
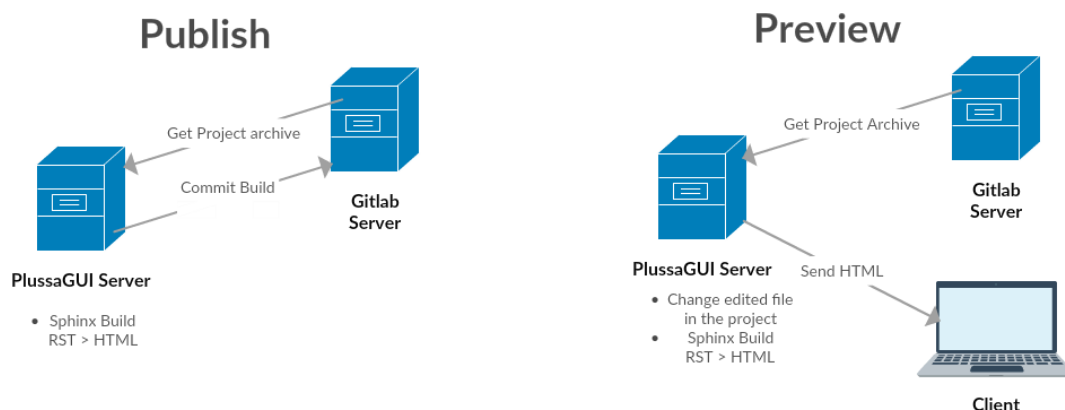
1.1 Purpose of the application

Plussa GUI is a browser based user interface for building courses for A-plus e-Learning Management System. This is an early test-development version that serves as a proof of concept for later development work.

1.2 General notes

Plussa GUI was originally forked from `anru/rsted` GitHub repository (https://github.com/anru/rsted), but in the end very little code from the original repo was utilized. Other Open Source tools used by Plussa GUI include jQuery File Tree (https://www.abeautifulsite.net/jquery-file-tree), markItUp (https://github.com/markitup/1.x) and Sphinx (https://github.com/sphinx-doc/sphinx).

1.3 Backend description

- Application uses Flask (Python based microframework)
- RSTCompiler class (rsted/rstcompiler.py) handles both backend operations, preview and publish
  - Runs sphinx-build program for RST > HTML conversion and saves build in project's "_build" folder
  - **Preview** function sends HTML to client while **Publish** function commits the build to GIT
  - It is required to download the whole project archive as it needs to include "rst-tools" directory for the sphinx build to work.
    - Project Archives are extracted and saved inside "temp" directory
- Process diagram:

1.4   Frontend description

Code implementation of the project's frontend is in `static/plussa-gui` subfolders as modules:
- file-manager: storage of metadata and content of downloaded, modified and newly created files
- file-tree-generator: HTML tools for UI updates of the jQuery File Tree
- gitlab-rest: HTTP query tools for interacting with GitLab REST API

`plussa-gui-setup.js` is the main application file that should be loaded last by the browser.

2   Testing

Plussa GUI was e2e-tested for the basic functionality and test files are located in a separate `cypress/integration` subfolder.

To run the tests Cypress software has to be installed: `npm install`
and then to start the test runner: `npm test`

3   List of defects

1. Long processing time of building the course's HTML folder to be published on the A-plus website. This leaves users staring at the processing indicator icon while server side HTML rendering takes place and recurring 'Publish' requests can be an issue.
2. Scandinavian letters (å, ä, ö) are stripped from the text files by the GitLab server.
3. Commit listing shows only the 20 latest commits even when 'since' parameter is sent to GitLab server.
4. Renaming (moving) a course repository file is not fully implemented. Gui components for launching the operation as well as gui updating methods are still missing.

4   Conclusions on product's quality

Plussa GUI is by no means ready for production use.