

★ PDF FACTORY

Your ultimate solution to pdf files

★ Outline

- Overview
- UI design philosophy
- Architecture

★ What is PDF Factory?

- A GUI front-end to PDFJam
- Helps in modifying/manipulating PDF files

★ Features

- Opening/previewing pages of a PDF file
- Cut/Copy/Paste/Delete
- Rotate pages
- N-up/2 sides offset
- File merging
- Works across multiple files

★ Demo



★ UI Design philosophy

Goals:

- Intuitive, mostly depends on mouse clicks
- Easy access across multiple files
- Compensate for PDFJam's low speed through queuing commands

★ Focuses on mouse clicks

The screenshot shows the PDF Factory application window. At the top, there is a menu bar with 'File', 'Edit', 'Tools', and 'Help'. Below the menu bar are icons for folder, floppy disk, and printer. The main area contains three document thumbnails, each with a close button (X) in the top right corner:

- Thumbnail 1: `/home/navieh/Desktop/aamultithreading.pdf`. It shows a slide titled 'Multithreading' with bullet points:
 - This way is to detect events results.
 - per each iteration:
 - A sort of an iterator: `map("processData"); // dispatch event`
 - This method is impossible if:
 - you don't have source code
 - Long operation, or
 - you don't want to change the source code.
- Thumbnail 2: `/home/navieh/Desktop/imagewidget.pdf`. It shows a slide with a map and text.
- Thumbnail 3: `/home/navieh/Desktop/QWERTY.CS3249ProposedProjects.pdf`. It shows a slide with text.

On the right side of the application, a preview of the 'Multithreading' slide is shown. The slide content includes:

- Leow Wee Kheng
- CS3249 User Interface Development
- Multithreading**
- CS3249
- Multithreading
- 1

The Windows taskbar at the bottom shows several open applications: CS32..., CS21..., navi..., MyS..., Budd..., huyn..., navi..., Qt A..., PDF ..., PDF ..., and system icons for volume, network, and battery (99%). The system clock shows 3.13.

★ Focuses on mouse clicks

The screenshot displays the PDF Factory application window. At the top, there is a menu bar with 'File', 'Edit', 'Tools', and 'Help'. Below the menu bar are icons for folder, floppy disk, and CD-ROM. The main area shows three open PDF documents:

- 1. `/home/navieh/Desktop/aamultithreading.pdf`: This document is shown in a multi-page view with five thumbnails. The first thumbnail is selected, and its content is displayed in the right-hand pane. The content includes sections on 'Process', 'Memory allocation', and 'Multithreading'.
- 2. `/home/navieh/Desktop/imagewidget.pdf`: This document is also in a multi-page view with five thumbnails. A red circle highlights a mouse cursor clicking on the third thumbnail.
- 3. `/home/navieh/Desktop/QWERTY.CS3249ProposedProjects.pdf`: This document is partially visible at the bottom.

The right-hand pane shows the content of the selected page from the first document, which includes the following text:

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Multithreading

CS3249 Multithreading 1

The taskbar at the bottom shows several open applications: Nav..., CS2..., navi..., My..., Bud..., huy..., navi..., Qt..., Arc..., PDF..., GN..., and system icons for volume, network, and battery (99%). The system clock shows 3.18.

★ Time compensation for PDFJam

- PDFJam command line
- no visible intermediate results
- needs to wait before executing next step

★ System design

- Model-View-Controller Architecture
 - Separation of concerns
 - Decoupling between components

★ System design

- Challenges

- Rendering pdf takes time:

do it in another thread!

- PDF renderer lib is not thread-safe:

mutex - save some memory, slower to load

*creating multiple objects - one for each thread,
sacrifice memory for performance*

- need to generate multiple PDFJam commands -> executing all commands at the export step costs some time...

again, as user is editing, do it in another thread.

★ Widgets

The screenshot displays the PDF Factory application window. At the top, there is a menu bar with 'File', 'Edit', 'Tools', and 'Help'. Below the menu bar is a toolbar with icons for file operations. A red box labeled 'Menu' points to the menu bar. The main workspace contains three PDF documents, each with a red box identifying a widget: 'PDFTable Widget' (pointing to a table widget), 'PDFFile Widget' (pointing to a file widget), and 'PDFPage Widget' (pointing to a page widget). On the right side, a 'PDFPreview Widget' is shown, displaying a preview of a document page with the title 'Multithreading' and author 'Leow Wee Kheng'. The preview page includes a table of contents and a list of topics. The bottom of the window shows a taskbar with various application icons and system tray icons.

Menu

PDFTable Widget

PDFFile Widget

PDFPage Widget

PDFPreview Widget

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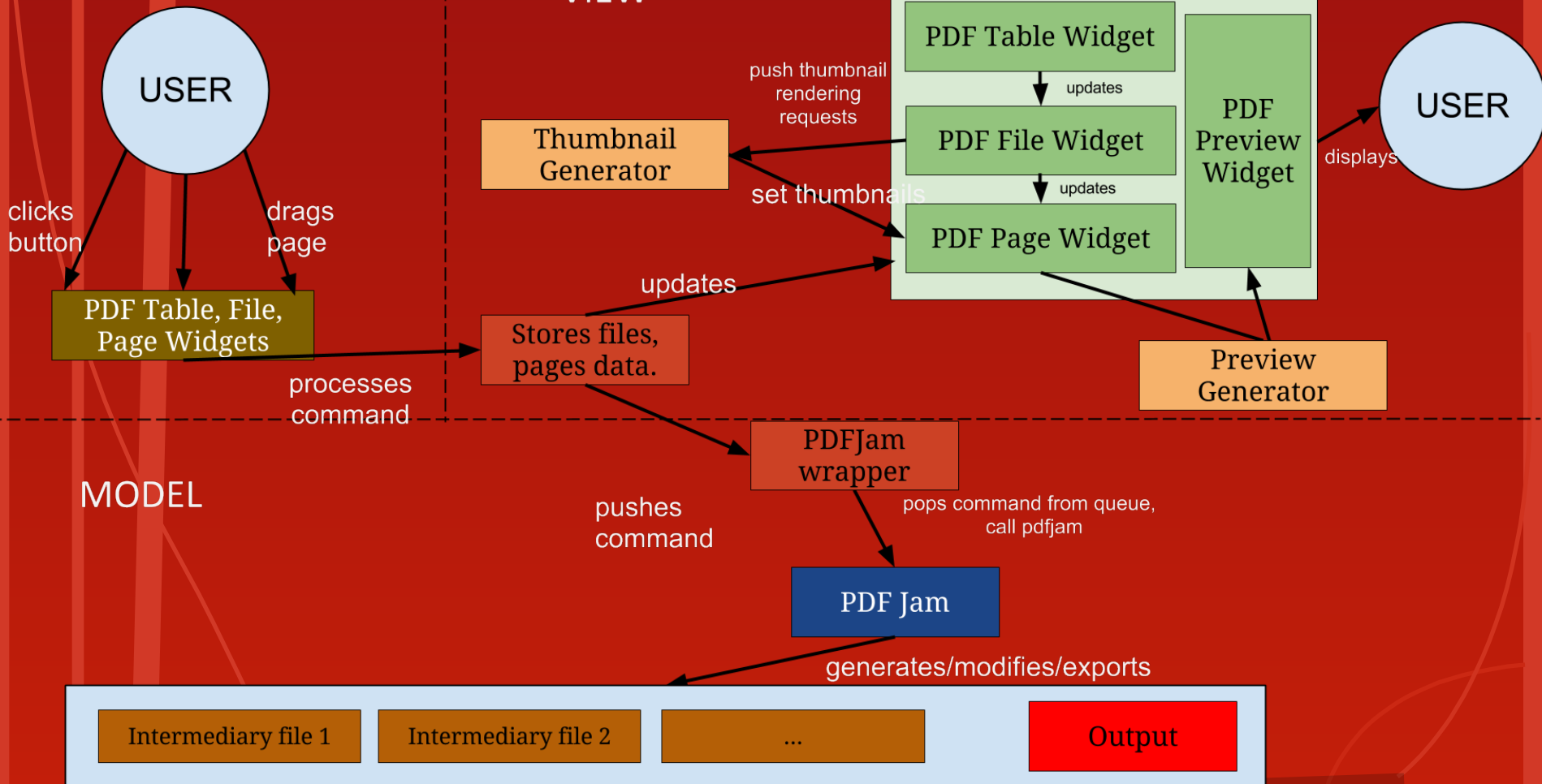
1

Architecture

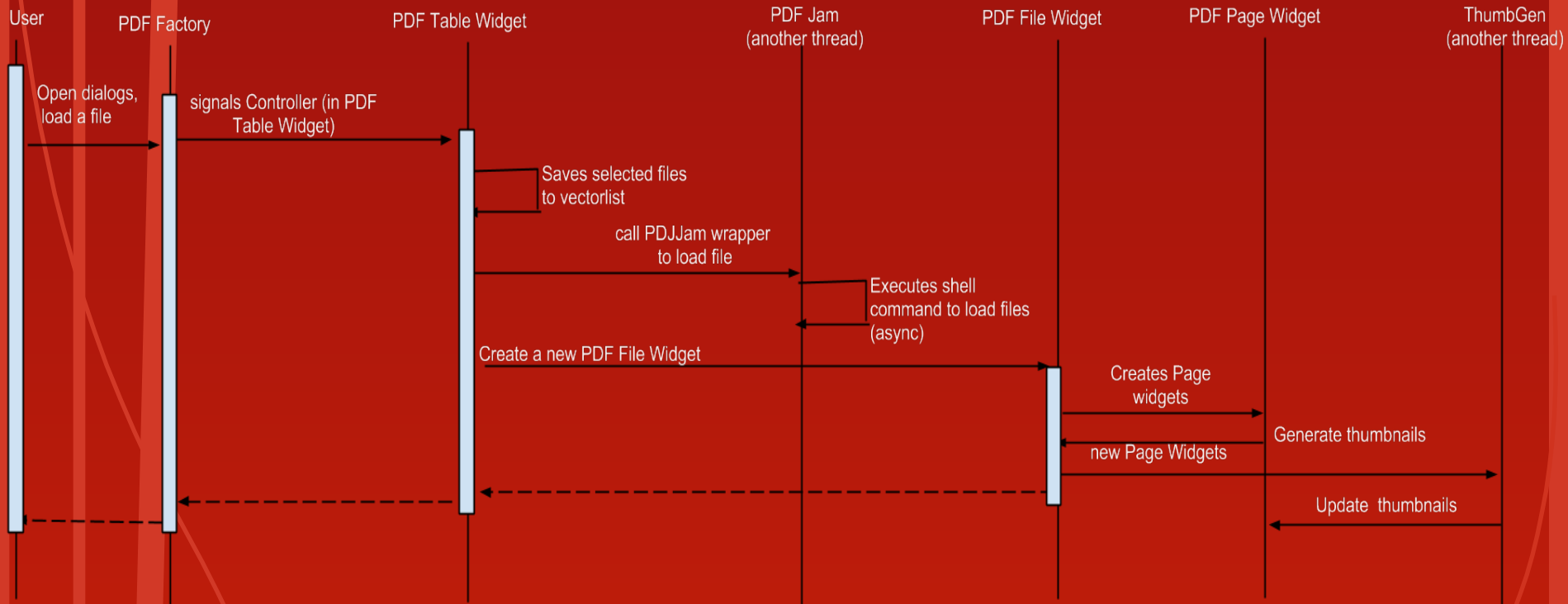
CONTROLLER

VIEW

MODEL



★ Sequence Diagram



★ Q & A