Document conversion in Moodle
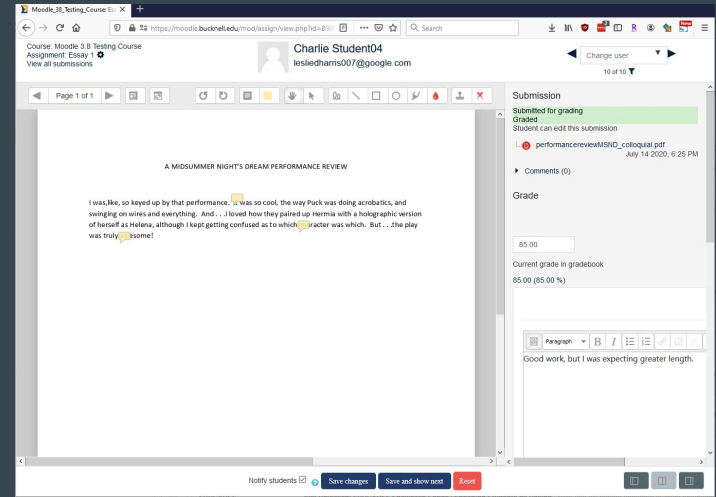
● ● ●

(for administrators)

Purpose of Document Conversion

1. Convert multiple file types to PDF files (and then to PNG* files) to allow for PDF annotation and grading within the Moodle interface.

2. Allow inline commenting, end commenting, and grading on a single screen:

3. Efficiently move from one student to the next.

* PNG is created by the Annotate PDF plugin, not by the Document Converter plugin, and is only used to display the grading interface

Common Problems

- Loss of existing annotations (including student entries on forms)

- Font incompatibility

- Languages (particularly Japanese)

- Conversions can "back up" or fail, with no notice.

- Not all file types can be converted

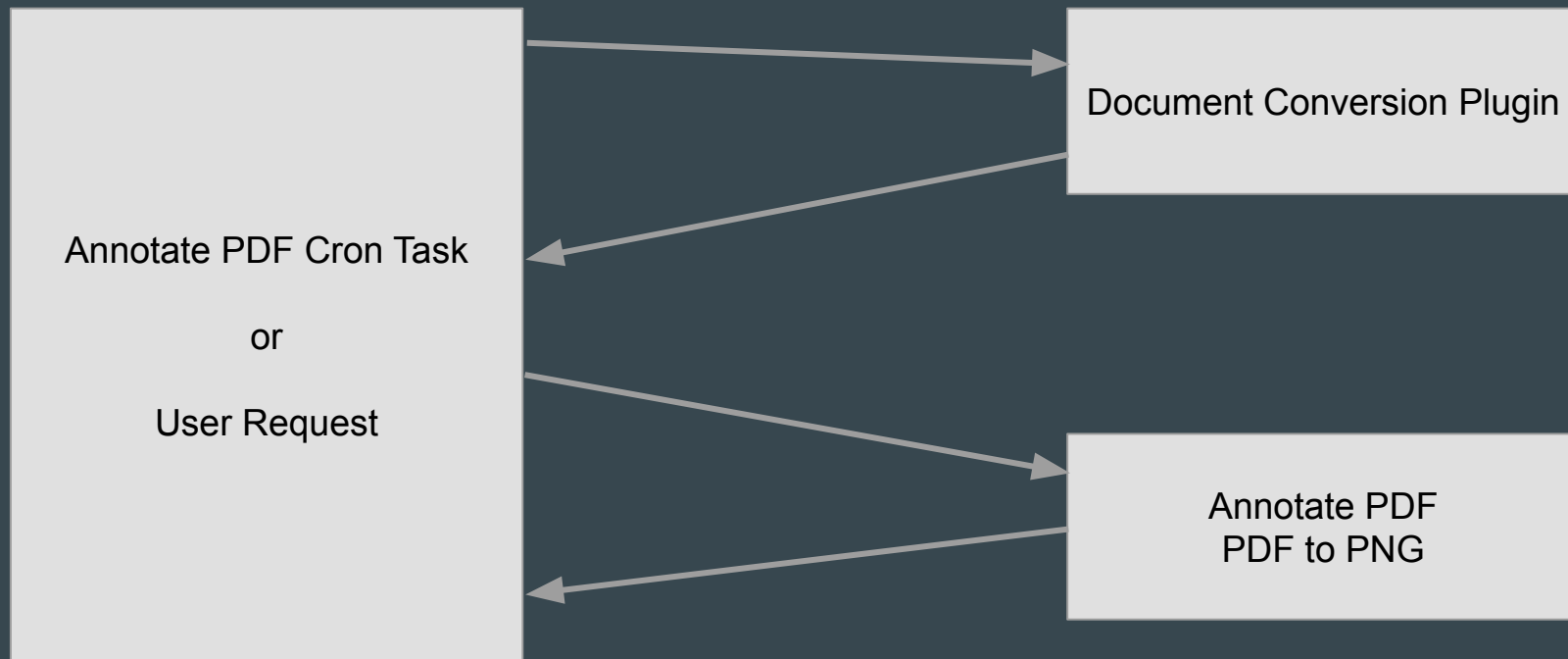- "Undefined error" preventing grading or commenting using Annotate PDF

File Types "Supported" by the Three Major Converters

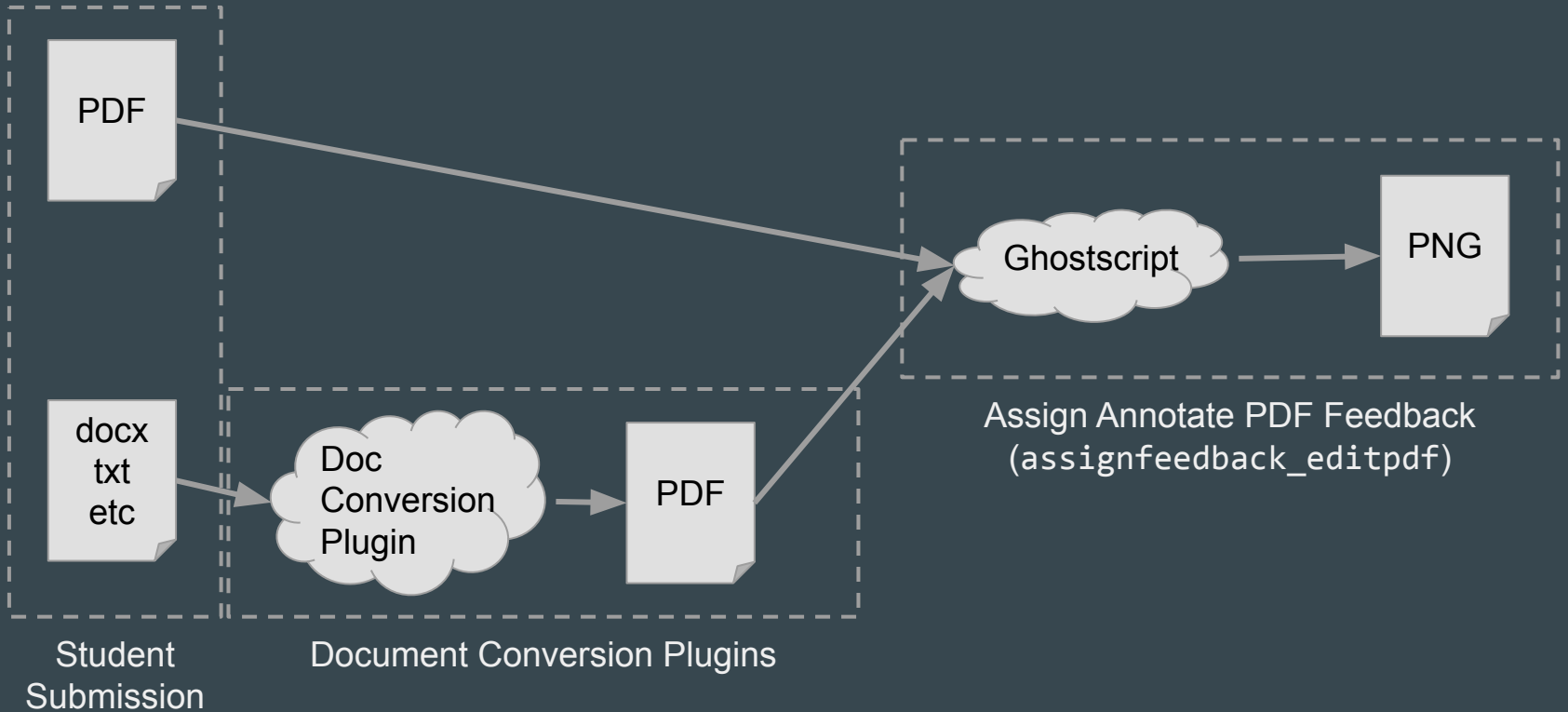> Site administration > Plugins > Document converters > Manage document converters

Manage document converters

Name	Supported document conversions
LibreLambda document converter	doc, docx, rtf, xls, xlsx, ppt, pptx, html, odt, ods, txt, png, jpg, gif, pdf
Google Drive	rtf, doc, xls, docx, xlsx, ppt, pptx, pdf, html
Unoconv	bib, doc, xml, docx, fodt, html, ltx, txt, odt, ott, pdb, pdf, psw, rtf, sdw, stw, sxw, uot, vor, wps, epub, png, bmp, emf, eps, fodg, gif, jpg, met, odd, otg, pbm, pct, pgm, ppm, ras, std, svg, svm, swf, sxd, tiff, wmf, xhtml, xpm, fodp, odg, odp, otp, potm, pot, pptx, pps, ppt, pwp, sda, sdd, sti, sxi, uop, csv, dbf, dif, fods, ods, ots, pxl, sdc, slk, stc, sxc, uos, xls, xlt, xlsx

The File Conversion Process

The File Conversion Process

Synchronous vs Asynchronous Conversion Plugins

Synchronous

- Happens in thread of User or Cron

- User (or cron) must wait for conversion

- User interface "hangs"

- Cannot do doc->PDF and PDF->PNG conversion in parallel

Asynchronous

- Request for conversion is submitted to plugin

- Thread can continue on

- User interface is responsive

- Annotate PDF can convert other docs to PNG while document conversion is working

Converter - unoconv

- Originally the only option for PDF conversion

- Runs on the Moodle server and wraps Libre Office's converter

- Requires LibreOffice and Java on all web/cron servers

- Synchronous

Converter - Google Drive

- Uses the Google Drive APIs via Google Cloud Platform

- Not tied to Google Apps for Education

- Relies on OAuth 2

- API rate limits
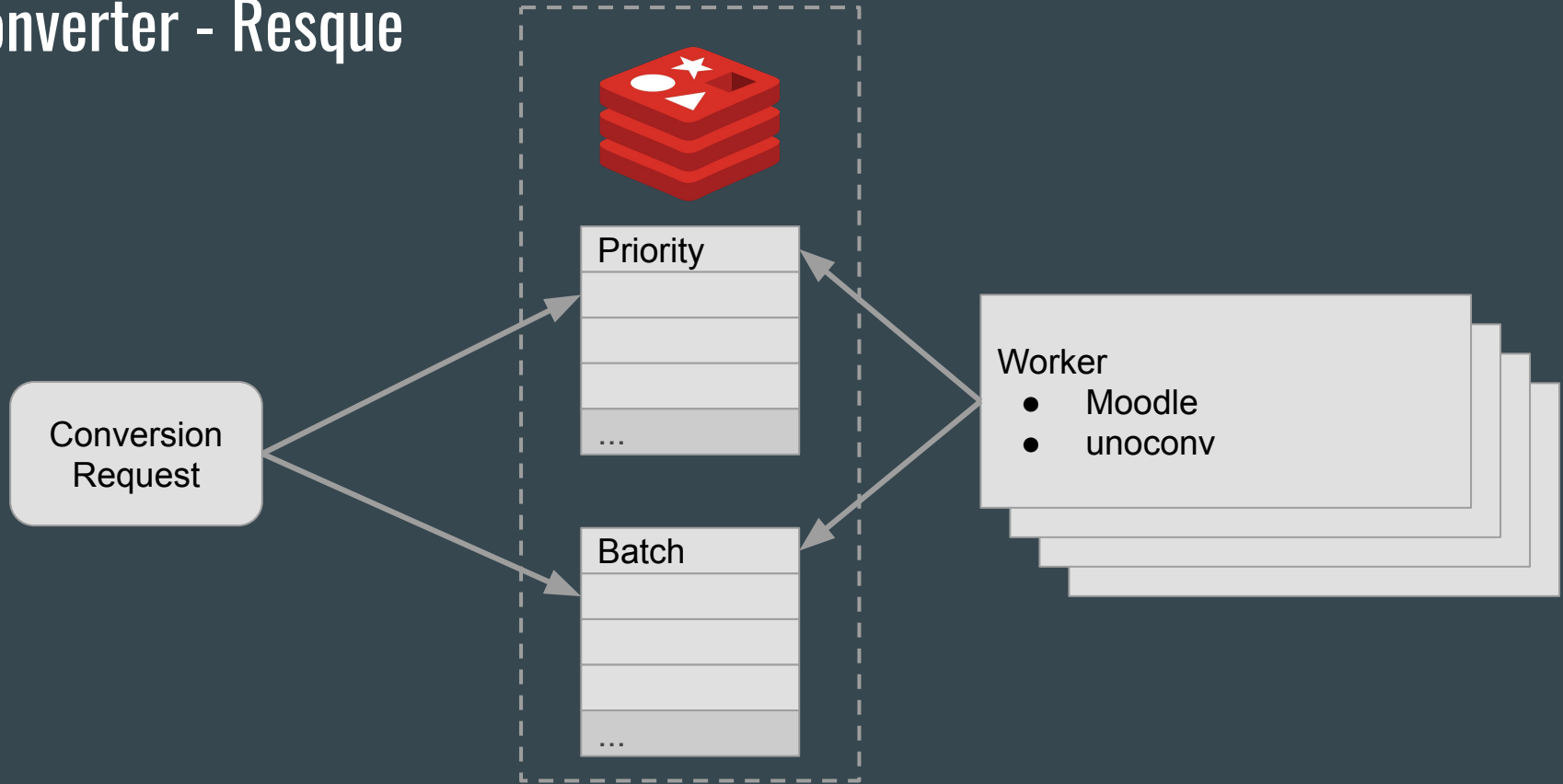
Converter - LibreLambda

- Wraps the LibreOffice converter in an AWS Lambda function

- Requires you to have a billed presence on Amazon Web Services

- https://moodle.org/plugins/fileconverter_librelambda

Converter - Resque

- Uses unoconv as underlying converter

- Uses Redis to queue conversions

- unoconv not needed on web servers

- Dual queues - cron vs user requested

- Worked processes watch queue and dispatch conversions

- Highly scalable

Converter - Resque

Priority

...

Batch

...

Conversion Request

Worker
- Moodle
- unoconv

Annotation cron task: threat or menace?

- Processes one submission at a time

- If the task fails, it may not restart successfully

- Ghostscript cannot handle complex files

- The mdl_assignfeedback_editpdf_queue table is your friend

Resources

- https://www.elearningworld.org/moodle-pdf-conversion-plugins-good-bad-ugly/

- https://tracker.moodle.org/browse/MDL-57202

- https://tracker.moodle.org/browse/MDL-70001

- https://tracker.moodle.org/browse/MDL-70038