Exam Digitisation

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Marking sucks

- Tiring
- Boring
- Stressful
But what makes it even worse...

- Security issues
- Archiving
It’s 2019!

Why are we still marking exams on paper?
The way forward is digital...

- Full digital exams
  - Projects in the pipeline
  - Not quite there yet
- Exam digitisation is a mid-way solution
What is Exam Digitisation?

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Why mark online?

- No more sacks of paper
- Highly parallel
- Guaranteed security
  - Secure scanning facility
  - Papers never leave campus
The process

Preparation → Printing → Exam sat → Scanning

Grades released ← Marking ← Upload to Moodle ← Export
The software: ExamScan

- Home-grown at UNSW
- Handles preparation, scanning and export
- Individual QR codes on each page
  - Every page on every paper has a unique, recoverable code
- Bubble-sheet student number
Our first setup
Our first setup
Our first setup
The process

Preparation → Printing → Exam sat → Scanning → Export

Grades released → Marking → Upload to Moodle

moodlemoot
Getting online

How do we use Moodle to mark these papers?
Assignment does it all

- Edit PDF feedback plugin
- Advanced grading
  - Marking guide
  - Rubric
- Marking workflow
  - Assigned markers
  - Maximise parallelism
With a little secret sauce...

- Bulk-upload plugin
  - Allows many submissions to be created with a single upload
  - Developed at UNSW
  - Available in plugin directory

The process

1. Preparation
2. Printing
3. Exam sat
4. Scanning
5. Grades released
6. Marking
7. Upload to Moodle
8. Export

Marked steps indicate completion.
The result?

- Significantly improved efficiency
- Reduced workload
- Faster turnaround
- Fewer student appeals
We hit a few snags...

- ghostscript is slow
  - Added hooks for uploading pre-rendered PDF pages
- Students notified about submissions
  - Bulk upload temporarily disables this admin config setting
- Most scanners are not built for this
  - Daily cycle usually <6000 pages... unless you go BIG
What going big looks like
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Where to from here?
The future of exam digitisation
Where to from here?

- Assignment isn’t Exam
  - Purpose-built module?
  - External tools?
Where to from here?

● Moving the whole thing online
  ○ Web-based preparation
  ○ Set up everything in advance
  ○ Direct link to Moodle
  ○ Fully automatic once papers are scanned
Where to from here?

- AI integration
  - Microsoft Azure AI
  - IBM Watson
  - Digital marking assistant
  - Learns as you mark
Get in contact

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