

IR to RIMS

Transforming an Institutional Repository Into a Research Information Management System



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Introduction (1)



- Migrate two NRF databases to DSpace
 - Current and Complete Research Projects
 - NRF Funded Projects
- Using StarWeb legacy databases
- Currently submissions are time consuming
- DSpace will allow remote submissions

Introduction (2)

- Build features of an RIMS into DSpace
 - Like those found in InfoEd, e.g. Standardised inputs, Reporting



- DSpace is the most widely used digital repository i.e. features widely received
- Primarily a Software Engineering project

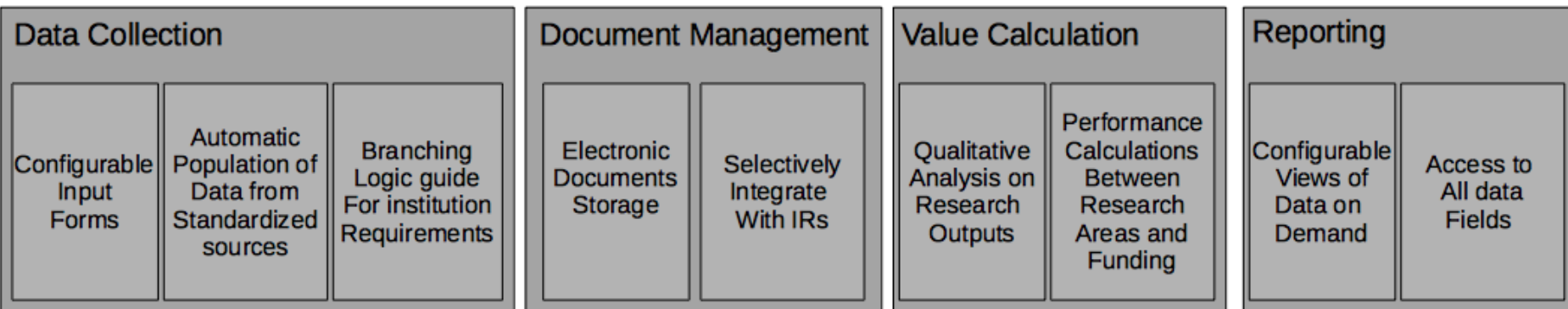
Objectives

- Streamline the NRF submission process
- Reduce submission workload
- Build features missing in DSpace
- Transform DSpace into a RIMS
- Produce generalised tools

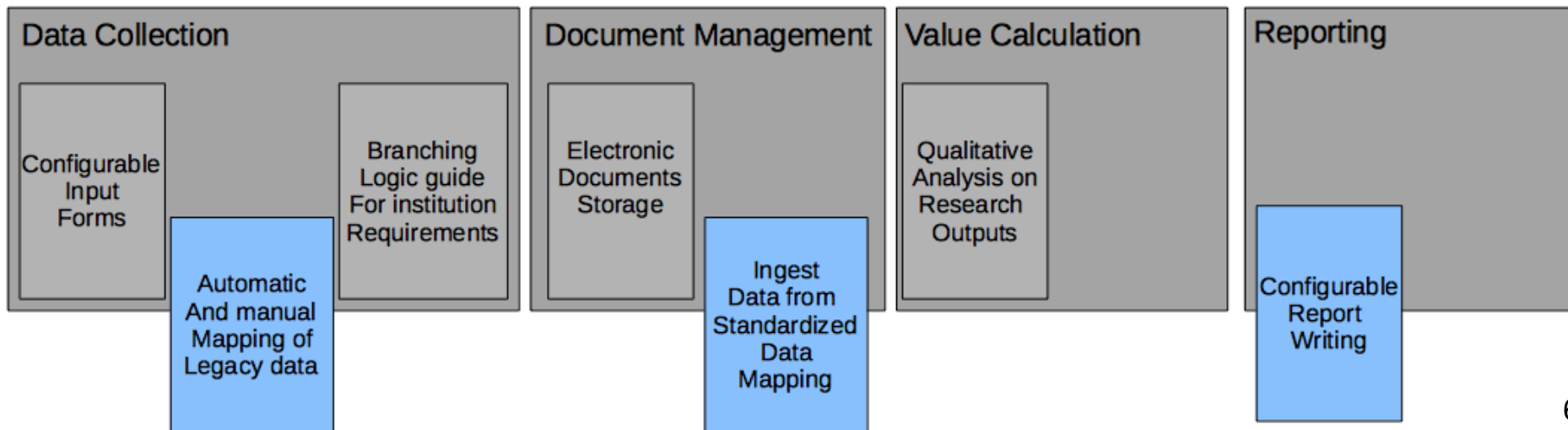
Proposed Solution

- Build 4 tools as add on features
 - Craig
 - Automatic Mapper
 - Manual Mapper
 - Darryl
 - Ingestion Manager
 - Report Writer

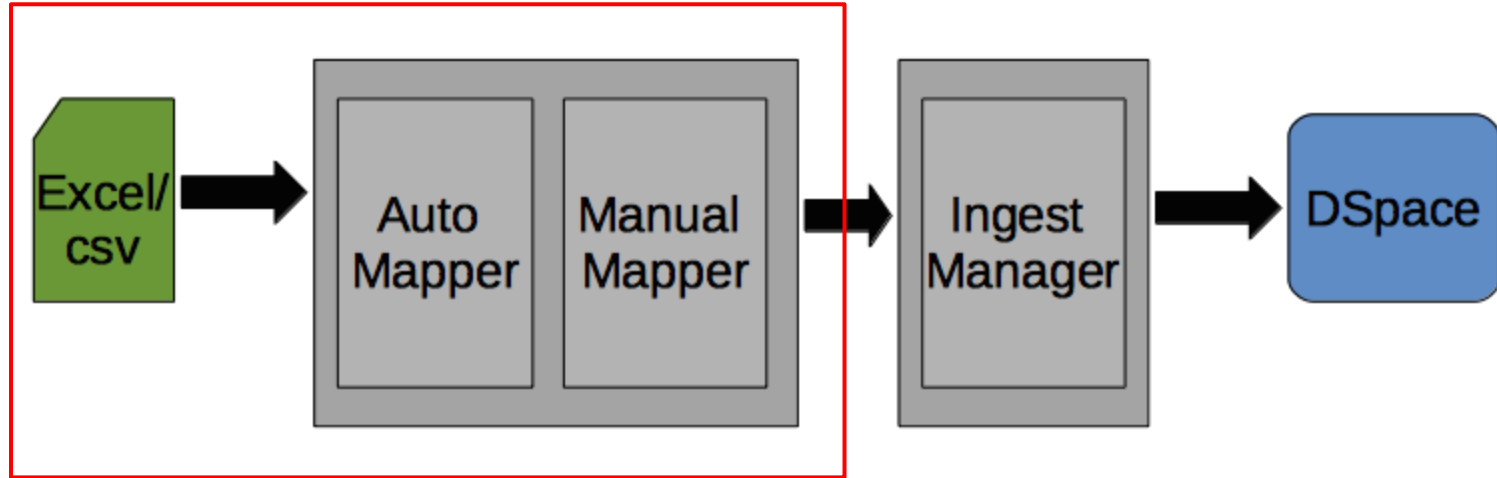
InfoEd



DSpace



Automatic and Manual Metadata Mappers



Automatic and Manual Mappers (1)

- CSV legacy data input
 - Automatically map to metadata fields
 - Regular expression and dictionary lookup
 - Manual corrections to errors and omissions
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- Web-based GUI

Automatic and Manual Mappers (2)

Evaluated using:

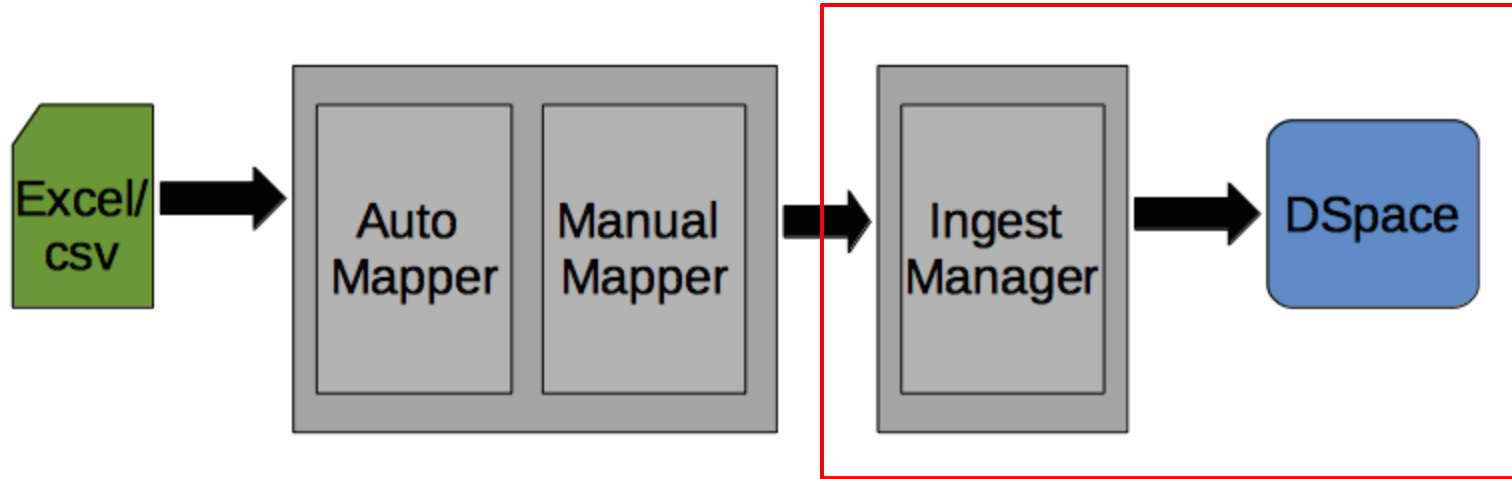
- Accuracy measures
- Usability tests



Key success factors:

- Successfully map most fields
- Correct any errors or omissions

Ingestion Manager



Ingestion Manager (1)

- Standardized mapping as input
 - Generates files and folder structure
 - Run terminal API calls
 - Integrate with DSpace submission workflows
 - Allow user to remotely ingest
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- Web-based GUI

Ingestion Manager (2)

Evaluated using:

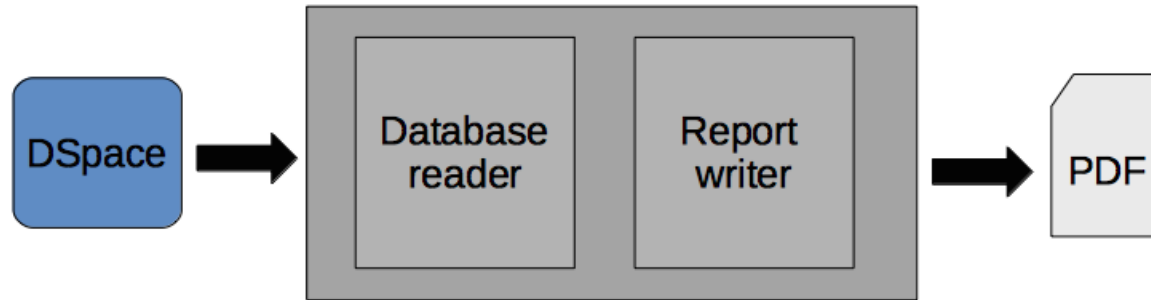
- Accuracy measures
- Usability tests



Key success factors:

- Generate correct files and folders from mapping
- All content ingested into DSpace

Report Writer



Report Writer (1)

- Extract information from the repository
- User customisable report layout
- Automatic report generation
- Modify open source OpenReports
- Uses JasperReports reporting engine



- Web-based GUI

Report Writer (2)

Evaluated using:

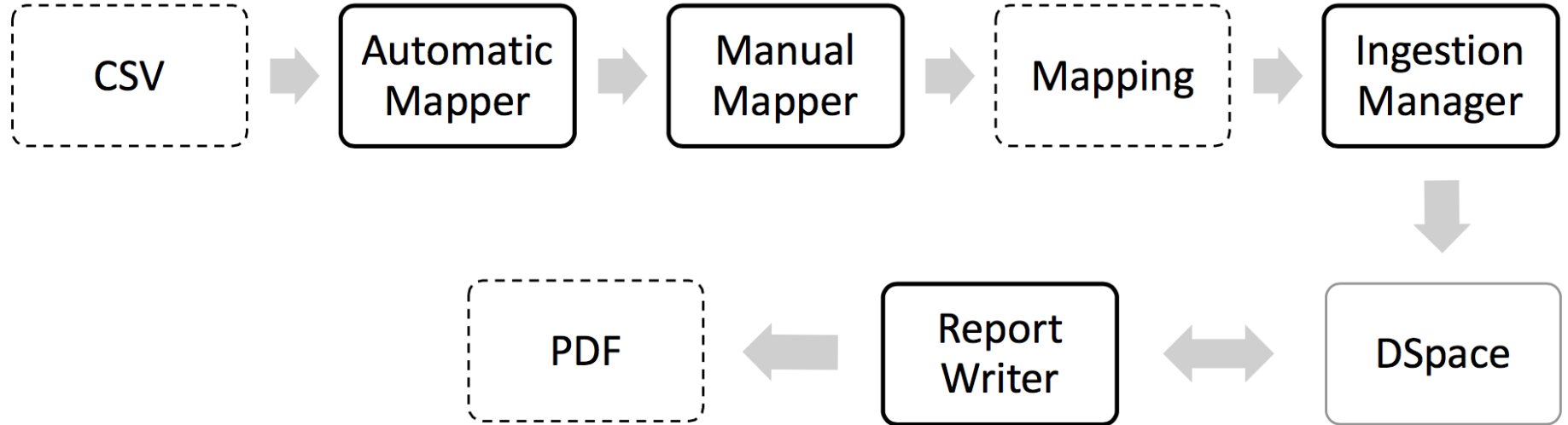
- Flexibility measures
- Dataset robustness
- Usability tests



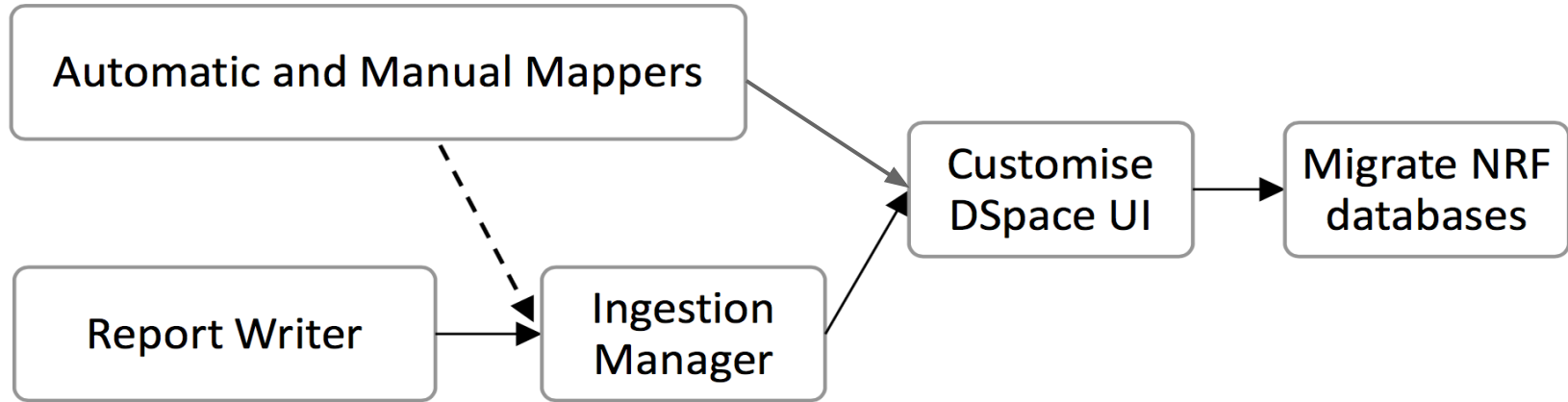
Key success factors:

- Successfully read all information in DSpace
- Meaningful, exportable, printable reports

Continuous Process



Development Procedure



NRF Database migration

Evaluated using:

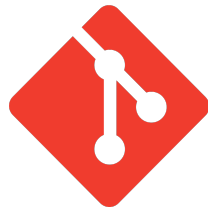
- Feedback from NRF and staff

Development Methods and Practices

- Agile software development
- Focus on evolutionary, iterative development
- Early release of MVP - continuously improve
- Unit testing and TDD
- Frequent meetings with Hussein/NRF
- User Centered Design

Collaboration

- Indefero code management
- Git VCS
- Bug trackers
- OpenProject project management



git



OpenProject

Ethical, Professional and Legal Issues

- Experiments would likely be simple usability tests
- Database handling responsibility
- Professional conduct with client
- Open Source output

Related Work

- South Africa National ETD portal
- DSpace plugins
 - @mire report writer
- Scripts to batch ingest data into DSpace
 - Need for a generic import tool

Required Resources

- Data from NRF
- Test data from other sources
- Access to local or remote server
- Run DSpace on UCT server

Timeline, Deliverables & Milestones

- Specified in the Gantt Chart tasks
 - UCT defined deliverables and dates
 - Own deliverables
- Initial prototype: 15 June - 17 July
- First implementation: 27 July - 11 Sept
- Final implementation: 14 Sept - 25 Sept
- Final Report: 28 Sept - 26 Oct



Thank You