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EXECUTIVE SUMMARY

The design team has been engaged by the Faculty of Engineering, Computing and Mathematics to develop an ePortfolio web application to be incorporated in a new practicum unit that will be offered by the University of Western Australia for engineering students. This application will allow students to produce records of professional practicum, which comply with the requirements of the Stage One Competencies for Engineers Australia membership. This application is intended to be used by all engineering students over the course of their studies as well as teaching staff associated with the unit.

This document outlines the functional and non-functional requirements developed during the project discovery phase and will serve as a guide for client acceptance following delivery of the product.

INTRODUCTION

The ePortfolio project was conceptualised following the proposal of a new professional practicum unit for engineering students by the Faculty of Engineering, Computing and Mathematics at the University of Western Australia. A requirement of this unit will be for students to produce three to five Career Episode Reports in which they reflect on how they have demonstrated each of the 16 Competencies from Engineers Australia during their practicum experience. Practicum experience may be comprised of volunteer work, coursework and workplace placements.

The ePortfolio is an application designed for students to use throughout their enrolment in the Bachelor of Engineering Science and Master of Professional Engineering in order to meet the requirements of the above unit. The ePortfolio will allow students to keep a log of their practicum experience, write the career episode reports and link the relevant competencies to corresponding sections of each report. This application can then be used by university teaching staff to mark the submitted portfolios and provide feedback to the students.

The application will be designed and developed by a team of students in consultation with the project coordinator, Tim French, and the client, the Faculty of Engineering, Computing and Mathematics. The following documentation is intended to provide an indication of the project requirements that the team will meet during the development of the ePortfolio.

REQUIREMENTS

The following requirements have been divided into functional and non-functional categories, with further classification based on the user roles identified for the system. These requirements have then been expanded into use cases to provide further detail.

Functional Requirements

User Roles

- **Student**: an individual undertaking either a Bachelor of Engineering Science or a Master of Professional Engineering and currently enrolled in at least one relevant unit.
- **Marker**: a member of university staff who has been or will be assigned to mark the ePortfolio submissions of one or more students.
- Unit Administrator: a member of university staff who will be maintaining a record of students undertaking the ePortfolio, assigning markers and managing enrolments.
- System Administrator: a member of university staff who is responsible for any changes required to the provided configuration.

1. Student Functional Requirements

- 1.1. The ePortfolio can be accessed through LMS.
- 1.2. A dashboard style overview of student's ePortfolio is displayed on the home page. This includes:
 - 1.2.1. Summary table of student's portfolio entries.
 - 1.2.2. Summary table of student's career episodes.
 - 1.2.3. Summary table of the 16 engineering competencies and associated career episodes.
 - 1.2.4. Progress bars indicating the percentage of required practicum hours and engineering competencies completed.
- 1.3. A CV in PDF format can be uploaded and deleted from the home page.
- 1.4. A practicum entry can be viewed, created, modified and deleted.
- 1.5. A career episode can be viewed, created, modified and deleted.
- 1.6. When a student has been enrolled in the professional practicum unit, they can submit the ePortfolio.
- 1.7. A student cannot edit the ePortfolio after submission until it has been marked

2. Marker Functional Requirements

- 2.1. The ePortfolio can be accessed through LMS.
- 2.2. The marker has the ability to select a particular student's ePortfolio, if they have been allocated as the marker and the student has submitted the ePortfolio.
- 2.3. A read only view of the following pages will be available:
 - 2.3.1. The student's dashboard.
 - 2.3.2. The student's practicum entry.
- 2.4. Comments can be entered against each submitted career episode report.
- 2.5. The commented career episode reports, general feedback and a grade can be submitted.

3. Unit Administrator Functional Requirements

- 3.1. The ePortfolio can be accessed through LMS.
- 3.2. Students can be assigned to and removed from markers.

4. System Administrator Functional Requirements

4.1. The provided configurable options can be altered.

Summary Use Cases

The following summary use cases map to the functional requirements stated above. These summaries are further detailed in Appendix A.

Student Perspective

1.0 Authentication

Identifier	Goal	Functional Requirements
1.1 Log on ePortfolio	To access the ePortfolio via blackboard authentication.	1.1, 1.2

2.0 Portfolio entries

Identifier	Goal	Functional Requirements
2.1 Create portfolio entry	To create a new portfolio entry.	1.4
2.2 View portfolio entry details	To view the detail view for a specific portfolio entry.	1.4
2.3 Upload certificate of work	To upload a certificate of work to be associated with a particular portfolio entry.	1.4
2.4 Remove certificate of work	To remove a previously uploaded certificate of work from a portfolio entry.	1.4
2.5 Replace certificate of work	To replace an already existing certificate of work associated with a portfolio entry.	1.4

3.0 Career Episodes

Identifier	Goal	Functional Requirements
3.1 Create career episode	To create a new career episode to be associated with an existing portfolio entry.	1.5
3.2 Edit career episode details	To edit the details of an existing career episode.	1.5
3.3 Delete career episode	To delete a career episode, and all associated artefacts and competency mappings.	1.5
3.4 View career episode report (via career episode detail view)	To see a particular career episode's report.	1.5
3.5 View career episode report (via career competency mapping table)	To view the particular report that satisfied a competency.	1.5
3.6 Edit career episode report	To edit the text of a report for a career episode.	1.5
3.7 Choose active career episodes	Student chooses the career episodes that they wish to contribute to their ePortfolio progress (and ultimately, their final submission).	1.2.2-4, 1.5
3.8 Upload Artefacts	To upload miscellaneous pdf artefacts to be viewed with a career episode.	1.5
3.9 Remove Artefact	To remove an artefact from a career episode.	1.5

4.0 Competency Mapping

Identifier	Goal	Functional Requirements
4.1 View table of mapped competencies	To view the current mapping of career episode reports to Engineers Australia's Stage 1 Competencies.	1.2.3-4
4.2 Map competencies	To select a piece of text in a career episode and associate it with a Engineers Australia Stage 1	1.2.3-4, 1.5

	Competency.	
4.3 Change mapped competencies	To select a piece of already mapped text in a career episode and associate it with a different Engineers Australia Stage 1 Competency.	1.2.3-4, 1.5
4.4 Remove mapped competencies	To select a piece of already mapped text in a career episode and remove any associations with Engineers Australia's Stage 1 competencies.	1.2.3-4, 1.5

5.0 CV

Identifier	Goal	Functional Requirement
5.1 Upload CV	To upload a (pdf) CV to the ePortfolio.	1.3
5.2 View CV	To view the CV that has been previously uploaded to the ePortfolio (possibly to verify that the uploaded file was correct).	1.3
5.3 Remove CV	To remove a CV from the ePortfolio, allowing another to be uploaded.	1.3

6.0 Submission and exporting

Identifier	Goal	Functional Requirement
6.1 Export Portfolio to PDF	To download a published and presentable view of the portfolio that can be saved and possibly shown to others.	
6.2 Submit Portfolio (active career episode version)	Upon meeting the criteria for completion of the ePortfolio (in terms of competency mappings, accumulated hours and CV) the student is able to indicate that they are ready for their portfolio to be marked.	1.6, 1.7

Marker Perspective

1.0 Authentication

Identifier	Goal	Functional Requirement
1.1 Log on ePortfolio	To access the marker dashboard via blackboard authentication.	2.1

2.0 Marker Dashboard

Identifier	Goal	Functional Requirement
2.1 View ePortfolios assigned for marking	To view the list of students' ePortfolios that the marker has been assigned to for grading.	2.2
2.2 Access student's ePortfolio	To access the markers' view for a specific portfolio entry.	2.2

3.0 Student Portfolios

Identifier	Goal	Functional Requirement
3.1 View student's portfolio	To view a published and non-editable view of a particular student's ePortfolio	2.3
3.2 Give feedback	Give feedback to a student's: Overall portfolio, Portfolio element, or Career episode.	2.4
3.3 Edit feedback	To change the text of already existing feedback, and to also alert the student of new feedback.	2.4
3.4 Remove feedback	To remove already existing feedback.	2.4
3.5 Pass portfolio	To grade a student's portfolio such that it receives a pass.	2.5
3.6 Reject portfolio	To grade a student's portfolio such that it does not pass, and the student is made aware that they need to rework and resubmit their portfolio.	2.5

Unit Administrator Perspective

1.0 Authentication

Identifier	Goal	Functional Requirement
1.1 Log on ePortfolio	To access the administrator dashboard via blackboard authentication.	3.1

2.0 Admin Dashboard

Identifier	Goal	Functional Requirement
2.1 View students without assigned marker	To view the list of students who have submitted an ePortfolio, but not yet been assigned a marker.	3.2
2.2 Assign markers to students	To assign a markers to students who have submitted their ePortfolio, but not yet been assigned a marker.	3.2

System Administrator Perspective

1.0 Configure System details

Identifier	Goal	Functional Requirement
1.0 Configure System Details	To change the functionality of the system by changing configurable details.	4.1

Mock Ups

Design mock ups for the user interface of the application can be found in Appendix B and indicate the application pages that will be visible to the different user roles. These mock ups are based on initial designs shared with the client on 21st April 2016 as well as additional feedback provided during this meeting. All designs are based on standards taken from the UWA Brand Toolkit.

Non-Functional Requirements

Interoperability

The ePortfolio system will allow integration with the university's current Learning Management System (LMS), Blackboard. The ePortfolio should provide a mechanism that allows the student to gain access through LMS without reauthenticating. The ePortfolio system should be capable of returning a pass or fail mark to LMS upon successful submission and marking of the student's portfolio.

Security

The ePortfolio should not handle authentication for Student, Marker and Unit Administrator roles. The system will provide sufficient security for the System Administrator role as some student data will be stored within the persistent storage of the ePortfolio.

The development, testing and deployment of the ePortfolio system shall be managed in such a way to be compliant with the university's policies on data sovereignty due to the storage of private student data.

Maintainability

The system will be designed and implemented in such a way that a focus on long-term upkeep is maintained. The team will evaluate choices of technology ensuring that there is sufficient community support, documentation and longevity. The team will also deliver a detailed maintenance manual to ensure the ongoing maintenance of the system is performed optimally.

Accessibility

The system shall be accessible from a wide variety of devices and operating system platforms due to the diversity of devices in use within the student and staff bodies.

The system shall also comply with university guidelines around web content, publishing and accessibility as detailed by the UWA Digital department: http://www.digital.uwa.edu.au/publishing/guidelines/accessibility

Performance & Scalability

It is assumed that Student and Marker access to the system will be infrequent with extended session times. The system shall be sufficiently scalable to allow for the known current number of enrolled students to have access.

DESIGN CONSTRAINTS

Technical

One of the most important requirements is the integration of the ePortfolio platform with the 's existing Learning Management System (LMS) Blackboard. There are two ways for the ePortfolio to integrate with Blackboard: LTI (Learning Tools Interoperability) and Building Blocks within the Blackboard platform.

The principal concept of LTI is to establish a standard way of integrating rich learning applications (such as ePortfolio) with platforms like Blackboard. The basic use case behind the development of the LTI specification is to allow the seamless connection of web-based, externally hosted applications or tools to platforms that present them to users. In other words, if you have an interactive assessment application like ePortfolio, it can be securely connected to an educational platform such as Blackboard in a standard way without having to develop and maintain custom integrations for each platform.

Building Blocks allows you to plug additional capabilities into Blackboard and can appear as new portal modules, custom content types and as links throughout many areas of the Blackboard user interface.

Upon comparing the two solutions, while LTI has a considerable level of complexity, once setup it allows for much better integration with applications created outside the Blackboard ecosystem. Building Blocks on the other hand require the project team to only work with the capabilities provided by Blackboard, which both limits the project's agility and means the product is not compatible with any other LMS.

PROJECT MANAGEMENT

Tim French will be the project manager for the duration of the ePortfolio project and will have the following responsibilities:

- Management of all communication between the team and the client.
- Sourcing and allocation of any additional resources required by the project.
- Management of the project schedule.
- Delivery of the project to the client.

Client Communication Schedule

Frequency and methods of communication between the client and the team will be established at the beginning of the development phase, 1st August 2016, and will be based on the individual requirements of all involved.

Application Handover

Details of the application handover will be discussed with the project manager and documented in the maintenance manual. This information will include database access, source code and deployment instructions.

Completion Date

The ePortfolio application and maintenance manual will be delivered to the project manager on the 30th October, 2016 and 4th November 2016 respectively. The handover of the application to the client will take place at the discretion of the project manager.

CONCLUDING DIRECTIVE

The above documentation summarises the minimum requirements that the team recognises need to be satisfied for adequate completion of the project. It will also serve as the primary reference for testing and user acceptance of the final application. These requirements have been gathered through direct communication with the client and university eLearning staff in addition to independent research and consultation with the project manager. The team requests that, upon reading this document, the client recognises the above requirements and discusses and agrees upon any amendments with the team prior to commencement of the development phase on 1st August 2016.

GLOSSARY

Practicum: Practicum is designed to give students supervised practical application of a previously or concurrently studied theory.

Career Episode Report: A Career Episode Report is a description of any project or period of work that highlights the student's professional qualities and skills.

Practicum Entry: A Practicum Entry is an instance of practical experience whether it be within the university as part of a practical design or research unit or externally through an industry placement or volunteer experience.

Dashboard: Dashboard is the main administration screen for a site or for a network of sites. It summarizes information about the site or network, and also external information, in one or more widgets that the Dashboard user can enable, disable, and move around.

CV: CV (curriculum vitae) is a document that summarizes the working experience, education and skills of a candidate for a job search.

PDF: PDF (Portable Document Format) is a file format that has captured all the elements of a printed document as an electronic image that you can view, navigate, print, or forward to someone else.

The Team: The team for this project consists of Masters of Professional Engineering students at UWA and the project coordinator, Tim French.

REFERENCES

IMS 2016, Learning Tools Interoperability. Available from: https://www.imsglobal.org/activity/learning-tools-interoperability. [7 June 2016].

Wang, P & Yaxin, W 2015, Study on Extensibility of Web-Based Instructional Platform. Available from: http://weixin.niurenqushi.com/article/2015-10-12/3877803.html. [7 June 2016].

APPENDIX A

Student Use Cases

1.0 Authentication

1.1 Log on ePortfolio

Identifier	1.1 Log on ePortfolio
Goal	To access the ePortfolio via blackboard authentication.
Flow of Events	 Student selects 'ePortfolio' tool from the blackboard LMS home page. SSO data is passed to ePortfolio tool provider, authenticating the student's credentials ePortfolio dashboard is rendered
Alternate flow of events	
Start page	blackboard home page
Finish page	ePortfolio dashboard
Preconditions	 Student's blackboard SSO session has not expired due to inactivity Student is enrolled in course associated with ePortfolio
Postconditions	 Student's blackboard SSO session has not been interrupted and is still valid The portfolio data presented on screen belongs to the portfolio maintained by the student
Notes	

2.0 Practicum entries

2.1 Create practicum entry

Identifier	2.1 Create practicum entry
Goal	To create a new practicum entry.
Flow of Events	 Student presses create new practicum entry button Student names the practicum entry

Alternate flow of events	 3. Student selects the type of practicum entry from choice of { coursework, volunteer work, work in industry } 4. Student submits the form to create the practicum entry
Aitemate now of events	
	3a Condition: Student selects <i>volunteer work</i> or <i>work in industry</i>
	Alternate flow:
	3a1. Student may attach a certificate of work 3a2. Student may specify the time spent at work
Start page	ePortfolio dashboard
Finish page	Practicum entry detail view
Preconditions	
Postconditions	 A practicum entry belonging to student's portfolio exists in database The correct details belonging to created practicum entry are displayed
Notes	

2.2 View practicum entry details

Identifier	2.2 View practicum entry details
Goal	To view the detail view for a specific practicum entry.
Flow of Events	Student clicks on the practicum entry in their portfolio that they wish to view
Alternate flow of events	
Start page	ePortfolio dashboard
Finish page	Practicum entry detail view
Preconditions	Portfolio contains at least one practicum entry
Postconditions	

Notes

2.3 Upload certificate of work

Identifier	2.3 Upload certificate of work
Goal	To upload a certificate of work to be associated with a particular practicum entry.
Flow of Events	 Student clicks "upload certificate of work" Student selects pdf file to attach in file selection wizard Student uploads the file to the ePortfolio The student receives visual indication that the upload was successful
Alternate flow of events	
Start page	Practicum entry detail view
Finish page	Practicum entry detail view
Preconditions	 The practicum entry being viewed is volunteer work or work in industry The practicum entry being viewed does not have an attached certificate of work
Postconditions	 The practicum entry being viewed has an attached certificate of work
Notes	

2.4 Remove certificate of work

Identifier	2.4 Remove certificate of work	
Goal	To remove a previously uploaded certificate of work from a practicum entry.	
Flow of Events	 Student icon indicating deletion of the certificate of work The student is asked to confirm their intent to delete the certificate of work The student confirms deletion The student receives visual indication that the deletion was successful 	

Alternate flow of events	
Start page	Practicum entry detail view
Finish page	Practicum entry detail view
Preconditions	 The practicum entry being viewed is volunteer work or work in industry The practicum entry being viewed does have an attached certificate of work
Postconditions	The practicum entry being viewed does not have an attached certificate of work
Notes	

2.5 Replace certificate of work

Identifier	2.5 Replace certificate of work
Goal	To replace an already existing certificate of work associated with a practicum entry.
Flow of Events	 Student clicks "replace certificate of work" Student selects file (pdf) to attach in file selection wizard Student uploads the file to the ePortfolio The student receives visual indication that the upload was successful
Alternate flow of events	
Start page	Practicum entry detail view
Finish page	Practicum entry detail view
Preconditions	 The practicum entry being viewed is volunteer work or work in industry The practicum entry being viewed does have an attached certificate of work
Postconditions	The practicum entry being viewed does have an attached certificate of work
Notes	

3.0 Career Episodes

3.1 Create career episode

Identifier	3.1 Create career episode
Goal	To create a new career episode to be associated with an already existing practicum entry.
Flow of Events	 Student clicks "add career episode" when viewing the practicum entry to which they wish to add the episode Student completes the form to add a career episode Student may choose to attach artefacts to the career episode when creating it Student submits the form to create the career episode The student is redirected to the career episode detail view
Alternate flow of events	5a Condition: 5 or more career episodes already exist in ePortfolio Alternate flow: 5a1. Student is notified (alert banner) that they have more than 5 career episodes in their ePortfolio, and that they will have to select their active 5 episodes
Start page	Practicum entry detail view
Finish page	Career episode detail view
Preconditions	 practicum entry to which the career episode is to be associated with exists in database
Postconditions	 The new career episode exists in database Career episode is correctly associated with the practicum entry to which it was added
Notes	

3.2 Edit career episode details

Identifier	3.2 Edit career episode
Goal	To edit the details of an existing career episode.

Flow of Events	 Student clicks 'edit career episode' Student completes the form to edit the career episode The form is checked client-side to see if the entered values are valid The student submits the form to edit career episode The student is redirect to the career episode detail view.
Alternate flow of events	
Start page	Career episode detail view
Finish page	Career episode detail view
Preconditions	 Career episode that the student wishes to edit exists in database
Postconditions	
Notes	 This does not concern the editing of a career episode report, rather the details of the career episode

3.3 Delete career episode

Identifier	3.3 Delete career episode
Goal	To delete a career episode, and all associated artefacts and competency mappings.
Flow of Events	 Student clicks 'delete career episode' Student is warned that not only will they lose the details of the career episode, but also the attached artefacts (including the written career episode report) Student presses 'OK' Student is prompted to type 'delete' into a modal text box to confirm deletion Student types delete and presses enter (or clicks confirm) Student is redirected to practicum entry view
Alternate flow of events	
Start page	Career episode detail view
Finish page	Practicum entry detail view
Preconditions	 Career episode that the student wishes to delete exists in database
Postconditions	The deleted career episode is removed from the database

	 Files and artefacts associated with the career episode are removed from the database
Notes	

3.4 View career episode report (via career episode detail view)

Identifier	3.4 View career episode report
Goal	To see a particular career episode's report.
Flow of Events	Career episode report is viewable in static text on career episode detail view
Alternate flow of events	1a Condition: Career episode report has not yet been started Alternate flow: 1a1. Static text where report will be written: Click [Start Report] to begin writing
Start page	Career episode detail view
Finish page	Career episode detail view
Preconditions	Career episode exists in database
Postconditions	
Notes	

3.5 View career episode report (via career competency mapping table)

Identifier	3.5 View career episode report progress via competency mapping table
Goal	To view the particular report that satisfied a competency.
Flow of Events	 Student views the competency mapping table to see the career episodes associated with a particular competency Student clicks on the career episode in the competency

	mapping table that they wish to view 3. Student is directed to the <i>career episode detail view</i> for the career episode they requested to view
Alternate flow of events	
Start page	ePortfolio dashboard
Finish page	Career episode detail view
Preconditions	 The career episode report exists and has mappings associated with it
Postconditions	
Notes	

3.6 Edit career episode report

Identifier	3.6 Edit career episode report
Goal	To edit the text of a report for a career episode.
Flow of Events	 Student clicks on start editing button, revealing the editing tools, and making the report text editable Student writes career report in paragraph format Editing tools are closed and report is saved when the student clicks a button to finish editing Report text becomes static User receives indication that progress was saved
Alternate flow of events	1a Condition: Career episode report has not yet been started Alternate flow: 1a1. Button instead reads 'start report' Functionality is otherwise the same
Start page	Career episode detail view
Finish page	Career episode detail view
Preconditions	 Career episode that the student wishes to add report to exists in database

Postconditions	 Career episode now has a report associated with it (if it didn't already prior to edit)
Notes	

3.7 Choose active career episodes

Identifier	3.7 Choose active career episodes
Goal	Student chooses the career episodes that they wish to contribute to their ePortfolio progress (and ultimately, their final submission).
Flow of Events	On the 'Career episodes' section of the dashboard, student presses the checkbox under 'Selected for Submission' for the career episode they wish to include in their set of active career episodes.
Alternate flow of events	
Start page	ePortfolio dashboard
Finish page	ePortfolio dashboard
Preconditions	 The configurable limit of active career episodes has not been reached
Postconditions	 Competency mapping table accurately reflects the EA competencies that the newly chosen set of active career episodes satisfy Student can easily determine which practicum entries have active episodes by viewing portfolio summary
Notes	

3.8 Upload Artefacts

Identifier	3.8 Upload Artefacts
Goal	To upload miscellaneous pdf artefacts to be viewed with a career episode.
Flow of Events	 Student clicks button to upload artefact to CE Student selects pdf file to upload via upload wizard Student uploads artefact to CE Student receives confirmation of successful upload Student observes the artefact thumbnail in artefact gallery on

	CE detail view
Alternate flow of events	
Start page	Career episode detail view
Finish page	Career episode detail view
Preconditions	 The number of artefacts associated with the career episode does not exceed the configurable limit
Postconditions	 The number of artefacts associated with the career episode has been incremented The artefact can be seen on the career episode detail view
Notes	

3.9 Remove Artefact

Identifier	3.9 Remove artefact
Goal	To remove an artefact from a career episode.
Flow of Events	 Student clicks trash icon next to artefact thumbnail Confirmation window appears, warning student item will be deleted Student presses confirm Student receives notification of successful deletion
Alternate flow of events	
Start page	Career episode detail view
Finish page	Career episode detail view
Preconditions	Career episode has at least one artefact associated with it
Postconditions	 The deleted artefact no longer exists in database Artefacts rearrange appropriately on CE detail view
Notes	

4.0 Competency Mapping

4.1 View table of mapped competencies

Identifier	4.1 View table of mapped competencies
Goal	To view the current mapping of career episode reports to Engineers Australia competencies.
Flow of Events	Student observes the table of mapped competencies on the dashboard
Alternate flow of events	
Start page	ePortfolio dashboard
Finish page	ePortfolio dashboard
Preconditions	
Postconditions	
Notes	

4.2 Map competencies to career episodes

Identifier	4.2 Map competencies to career episode
Goal	To select a piece of text in a career episode and associate it with an Engineers Australia competency.
Flow of Events	 Student highlights static text that they wish to map to a competency Competency menu becomes interactable (need js to detect highlighted text) Student selects the competency from the menu that they wish to map to the selected text The text becomes shaded in a colour corresponding to the chosen competency
Alternate flow of events	
Start page	Career episode detail view
Finish page	Career episode detail view
Preconditions	Career episode has a written report associated with it

Postconditions	 Static text on CE report accurately reflects chosen competencies Competency mapping table on dashboard accurately reflects chosen competencies
Notes	

4.3 Change mapped competencies

Identifier	4.3 Change mapped competencies
Goal	To select a piece of already mapped text in a career episode and associate it with a different Engineers Australia competency.
Flow of Events	 Student clicks on shaded text that has been mapped to a competency Competency mappings for the text are displayed Student selects the competency that they wish to map to this text, to change the mapping Text changes colour to reflect the new competency mapping
Alternate flow of events	
Start page	Career episode detail view
Finish page	Career episode detail view
Preconditions	Mappings exist that are associated with the CE report
Postconditions	 Static text on CE report accurately reflects chosen competencies Competency mapping table on dashboard accurately reflects chosen competencies
Notes	

4.4 Remove mapped competencies

Identifier	4.4 Remove mapped competencies
Goal	To select a piece of already mapped text in a career episode and remove any associations with Engineers Australia's competencies.
Flow of Events	 Student clicks on shaded text that has been mapped to a competency Competency mappings for the text are displayed

	Student unchecks mapped competencies Text reverts to having no colour
Alternate flow of events	
Start page	Career episode detail view
Finish page	Career episode detail view
Preconditions	Mappings exist that are associated with the CE report
Postconditions	 Previously mapped text is no longer coloured Text is no longer mapped to a competency in database Competency mapping table on dashboard accurately updates
Notes	

5.0 CV

5.1 Upload CV

Identifier	5.1 Upload CV
Goal	To upload a (pdf) CV to the ePortfolio.
Flow of Events	 Student presses upload CV button on dashboard Student uploads pdf via file upload wizard Student is notified of successful upload dashboard updates with new CV information: a. On progress pane: CV Uploaded [✓] b. CV thumbnail viewable on dashboard
Alternate flow of events	
Start page	ePortfolio dashboard
Finish page	ePortfolio dashboard
Preconditions	Student has not yet uploaded a CV to ePortfolio
Postconditions	 On progress pane: CV Uploaded [✓] CV thumbnail viewable on dashboard
Notes	

5.2 View CV

Identifier	5.2 View CV
Goal	To view the CV that has been previously uploaded to the ePortfolio (possibly to verify that the uploaded file was correct).
Flow of Events	 Student clicks CV thumbnail on dashboard Modal window appears containing CV (downloadable pdf)
Alternate flow of events	
Start page	ePortfolio dashboard
Finish page	ePortfolio dashboard
Preconditions	Student has uploaded a CV to ePortfolio
Postconditions	
Notes	

5.3 Remove CV

Identifier	5.3 Remove CV
Goal	To remove a CV from the ePortfolio, allowing another to be uploaded.
Flow of Events	 Student clicks trashcan icon next to CV thumbnail Student is warned and asked to confirm deletion Student confirms deletion CV information is removed from dashboard
Alternate flow of events	
Start page	ePortfolio dashboard
Finish page	ePortfolio dashboard
Preconditions	Student has uploaded CV to dashboard
Postconditions	On progress pane: CV Uploaded [X]CV removed from database
Notes	

6.0 Submission and exporting

6.1 Export Portfolio to PDF

Identifier	6.1 Export portfolio (pdf)
Goal	To download a published and presentable view of the portfolio that can be saved and possibly shown to others.
Flow of Events	 Student clicks Export button on portfolio Student downloads a pdf, outlining their portfolio elements in visual manner
Alternate flow of events	
Start page	ePortfolio dashboard
Finish page	ePortfolio dashboard
Preconditions	
Postconditions	
Notes	Have to decide on exported report format

6.2 Submit Portfolio (active career episode version)

Identifier	6.2 Submit portfolio (active careers)
Goal	Upon believing that their ePortfolio is complete (in terms of competency mappings, accumulated hours and CV) and of an acceptable quality, the student is able to indicate that they are ready for their portfolio to be marked.
Flow of Events	 Student can see that they are eligible to submit their portfolio by viewing their progress pane: a. 16/16 Competencies progress bar b. 450/450 hours progress bar c. CV Uploaded [✓] Student presses submit button Confirmation modal (5 pages with next/prev buttons) appears containing: a. Information about submission process b. Plagiarism statement + Agreement checkbox c. Warning that once submitted, the portfolio cannot be

	editted d. Warning that only the 5 active career episodes will be considered e. Confirm submission page 4. Student presses submit on last page of submission modal 5. Student receives receipt confirming submission: a. Via email b. Viewable on static portfolio post submission 6. Student added to the list of students to be marked
Alternate flow of events	
Start page	ePortfolio dashboard
Finish page	ePortfolio dashboard (static)
Preconditions	 Student is in final year of study Student has at least one career episode Student has satisfied time requirement of course Student has satisfied competency requirement of course Student has uploaded a CV
Postconditions	 Portfolio becomes static: student can only view a published version of the portfolio Marker receives notification that portfolio has been submitted Student appears in Marker's list of students that require marking
Notes	

Marker Use Cases

1.0 Authentication

1.1 Log on ePortfolio

Identifier	1.1 Log on ePortfolio
Goal	To access the marker dashboard via blackboard authentication.
Flow of Events	 Marker selects 'ePortfolio' tool from the blackboard LMS dashboard. SSO data is passed to ePortfolio tool provider, authenticating the marker's credentials Marker dashboard is rendered
Alternate flow of events	
Start page	blackboard dashboard
Finish page	Marker dashboard
Preconditions	 Marker blackboard SSO session has not expired due to inactivity The account of the blackboard user has marker permissions for the unit associated with ePortfolio
Postconditions	 Marker's blackboard SSO session has not been interrupted and is still valid
Notes	

2.0 Marker Dashboard

2.1 View ePortfolios assigned for marking

Identifier	2.1 View ePortfolios assigned for marking
Goal	To view the list of students' ePortfolios that the marker has been assigned to grading.
Flow of Events	Marker observes the list of students' ePortfolios that they have been assigned to grading on the dashboard
Alternate flow of events	
Start page	Marker dashboard

Finish page	Marker dashboard
Preconditions	Marker has been assigned students to grade
Postconditions	
Notes	

2.2 Access student's ePortfolio

Identifier	2.2 Access student's ePortfolio
Goal	To access the markers' view for a specific portfolio entry.
Flow of Events	Marker clicks on the link to the student's portfolio that they wish to grade
Alternate flow of events	
Start page	Marker dashboard
Finish page	ePortfolio dashboard
Preconditions	Marker has been assigned students to grade
Postconditions	
Notes	

3.0 Student Portfolios

3.1 View student's portfolio

Identifier	3.1 View student's portfolio
Goal	To view a published and non-editable view of a particular student's ePortfolio
Flow of Events	 Marker clicks "view portfolio" in student table Static representation of portfolio is seen by marker
Alternate flow of events	
Start page	Marker dashboard
Finish page	ePortfolio dashboard

Preconditions	
Postconditions	
Notes	 Marker can view: ePortfolio dashboard Portfolio element detail view Career episode detail view Marker does not have the ability to change the portfolio in any way

3.2 Give feedback

Identifier	3.2 Give feedback
Goal	Give feedback to a student's: Overall portfolio, Portfolio element, or Career episode.
Flow of Events	 Marker clicks "leave feedback" Text box appears with 500 character limit Marker writes feedback to student Marker presses submit Feedback is located at bottom of the page in static (hideable) text Student is notified of new feedback: Via email Via alert banner upon visiting ePortfolio
Alternate flow of events	
Start page	ePortfolio dashboard, Portfolio element detail view, or Career episode detail view
Finish page	Same as start page
Preconditions	 Marker has not yet left feedback on the page being viewed Portfolio has not been submitted
Postconditions	Feedback exists on the page
Notes	

3.3 Edit feedback

Identifier	3.3 Edit feedback
Goal	To change the text of already existing feedback, and to also alert the student of new feedback.
Flow of Events	 Marker clicks "edit feedback" Text box appears with 500 character limit, with text of existing feedback preloaded Marker writes feedback to student Marker presses submit Feedback is located at bottom of the page in static (hideable) text Student is notified of new feedback: a. Via email b. Via alert banner upon visiting ePortfolio
Alternate flow of events	
Start page	ePortfolio dashboard, Portfolio element detail view, or Career episode detail view
Finish page	Same as start page
Preconditions	Feedback exists on the pagePortfolio has not been submitted
Postconditions	Feedback exists on the pageFeedback shows the new text (post-edit)
Notes	

3.4 Remove feedback

Identifier	3.4 Remove feedback
Goal	To remove already existing feedback.
Flow of Events	 Marker clicks "remove feedback" Confirmation box appears Marker confirms deletion Feedback text is removed from page
Alternate flow of events	

Start page	ePortfolio dashboard, Portfolio element detail view, or Career episode detail view
Finish page	Same as start page
Preconditions	Feedback exists on the pagePortfolio has not been submitted
Postconditions	Feedback no longer exists on the page
Notes	

3.5 Pass portfolio

Identifier	3.5 Pass portfolio
Goal	To grade a student's portfolio such that it receives a pass.
Flow of Events	 Marker clicks grade portfolio Grading modal appears, supporting the functionality for the next steps. Warnings, terms and statements are presented Options of pass and reject are presented Marker clicks pass Marker requested to confirm pass Portfolio's status changes from submitted to passed Student receives notification of pass Via email Via banner + trophy on ePortfolio dashboard
Alternate flow of events	
Start page	ePortfolio dashboard
Finish page	ePortfolio dashboard
Preconditions	The student's portfolio is in the submitted status
Postconditions	Student's portfolio is in graded (passed) status
Notes	

3.6 Reject portfolio

Identifier	3.6 Reject portfolio
Goal	To grade a student's portfolio such that it does not pass, and the student is made aware that they need to rework and resubmit their portfolio.
Flow of Events	 Marker clicks grade portfolio Grading modal appears, supporting the functionality for the next steps. Warnings, terms and statements are presented Options of pass and fail are presented Marker clicks reject Marker requested to confirm rejection Marker prompted to write rejection feedback (textbox in modal) Portfolio's status changes from submitted to rejected Student receives notification of rejection (including rejection feedback) Via email Via banner on ePortfolio dashboard
Alternate flow of events	
Start page	ePortfolio dashboard
Finish page	ePortfolio dashboard
Preconditions	The student's portfolio is in the submitted status
Postconditions	Student's portfolio is in unsubmitted status
Notes	

Unit Administrator Use Cases

1.0 Authentication

1.1 Log on ePortfolio

Identifier	1.1 Log on ePortfolio
Goal	To access the administrator dashboard via blackboard authentication.
Flow of Events	 Administrator selects 'ePortfolio' tool from the blackboard LMS dashboard. SSO data is passed to ePortfolio tool provider, authenticating the administrator's credentials Administrator dashboard is rendered
Alternate flow of events	
Start page	blackboard dashboard
Finish page	Administrator dashboard
Preconditions	 Administrator blackboard SSO session has not expired due to inactivity The account of the blackboard user has marker permissions for the unit associated with ePortfolio
Postconditions	Administrator's blackboard SSO session has not been interrupted and is still valid
Notes	

2.0 Admin Dashboard

2.1 View students without assigned marker

Identifier	2.1 View students without assigned marker
Goal	To view the list of students who have submitted an ePortfolio, but not yet been assigned a marker.
Flow of Events	 Administrator observes the list of students' ePortfolios that have been submitted, but not yet assigned a marker.
Alternate flow of events	
Start page	Administrator dashboard

Finish page	Administrator dashboard
Preconditions	 There exist students who have submitted an ePortfolio who have not yet been assigned a marker
Postconditions	
Notes	

2.2 Assign markers to students

Identifier	2.2 Assign marker to student
Goal	To assign a marker to a student who has submitted their ePortfolio, but not yet been assigned a marker.
Flow of Events	 Administrator selects the marker that they wish to assign to a student via dropdown menu in the row associated with the student (on the list of students found via use case 2.1) Marker is notified that they have been assigned a student to mark.
Alternate flow of events	
Start page	Administrator dashboard
Finish page	Administrator dashboard
Preconditions	 There exist marker(s) available to be assigned to students There exist student(s) who have submitted an ePortfolio who have not yet been assigned a marker
Postconditions	The relevant marker can see the student that they have been assigned to mark on their marker dashboard
Notes	

System Administrator Perspective

1.0 System Configuration

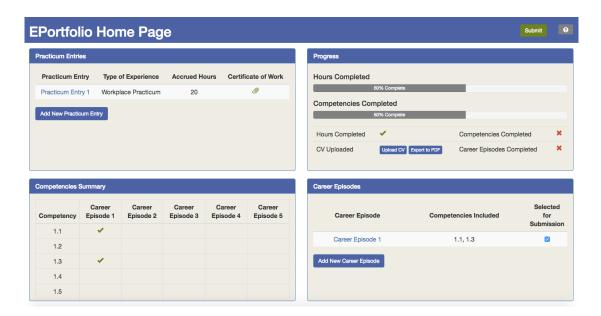
1.1 Configure System Details

Identifier	1.1 Configure System Details
Goal	To change the functionality of the system by changing configurable details.
Flow of Events	 System admin accesses the system with administrative credentials System admin changes configurable system details System admin commits the changes
Alternate flow of events	
Start page	N/A
Finish page	N/A
Preconditions	System admin has valid credentials
Postconditions	ePortfolio system reflects the changes made by the system admin.
Notes	

APPENDIX B

Student View

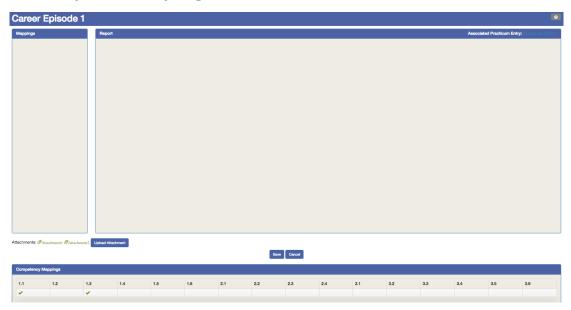
Home Page



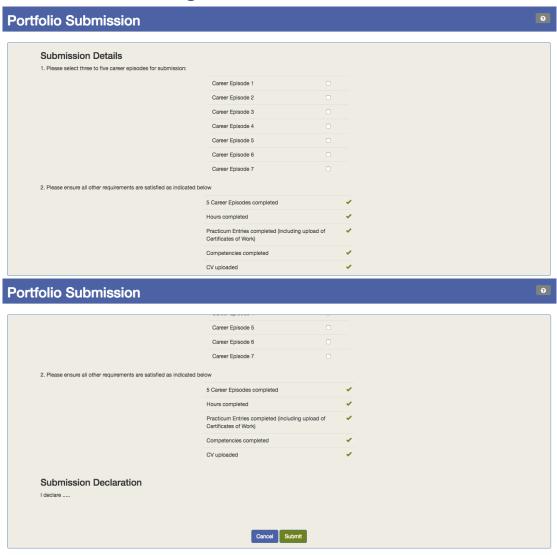
Practicum Entry Page



Career Episode Entry Page



Portfolio Submission Page

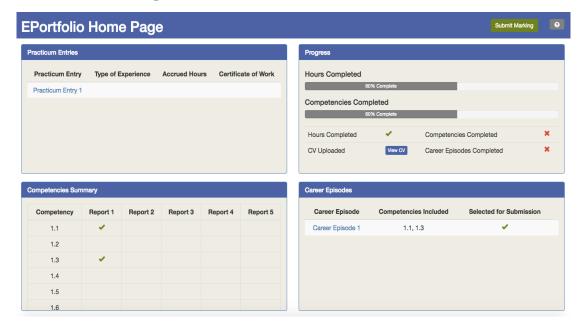


Marker View

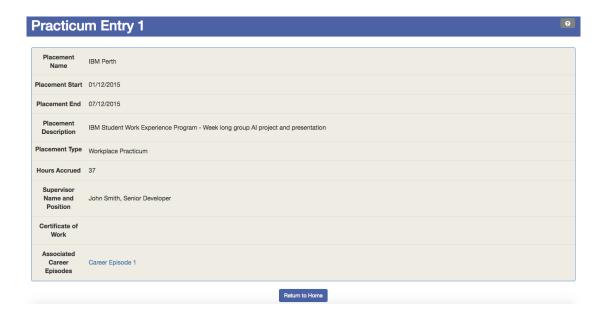
Home Page



Student Home Page



Practicum Entry Page



Career Episode Entry Page



Marking Submission Page



Unit Administrator View

Home Page

