

The ReMarksPDF Editor: stage 3

Final Report 2014

University of New England (lead institution)

Australian Table A and Table B providers (partner institutions)

Professor Stephen Colbran
University of New England

<http://www.remarkspdf.com>

Support for the production of this report has been provided by the Australian Government Office for Learning and Teaching. The views expressed in this report do not necessarily reflect the views of the Australian Government Office for Learning and Teaching.



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Office for Learning and Teaching
Department of Education
GPO Box 9880,
Location code N255EL10
Sydney NSW 2001

<learningandteaching@education.gov.au>

2014

ISBN 978-1-74361-542-3 [PDF]

Acknowledgements

The outcomes of this project would not have eventuated without the assistance of the following persons.

Mr Michael Garner (Griffith University)
Mr Michael Judd (Griffith University)
Dr Felicia Zhang (University of Canberra)
Mr Alan Arnold (University of Canberra)
Mr Brian Sullivan (The University of Queensland)
Mr Simon Collyee (The University of Queensland)
Professor Geoffrey Crisp (RMIT University)

List of acronyms used

ALTC	Australian Learning and Teaching Council Ltd.
CEQ	Course Experience Questionnaire
LMS	Learning Management System
OLT	Australian Government Office for Learning and Teaching

Executive summary

Educational institutions often fail to provide timely, high-quality feedback to their students. This is regularly reported as a major area of student dissatisfaction in Australian course experience questionnaires (CEQ). Records management and reporting structures for students and staff are often of mixed quality, as is the standard of quality assurance and the integration and tracking of graduate attributes and learning outcomes. Poor feedback in and engagement with students also directly impacts on enrolments, attrition and future alumni operations.

ReMarks is a multilingual software development project with a clear focus on building student feedback and engagement through the assessment process. It is a new type of software known as a feedback management system. ReMarksPDF is available in English (UK and USA), modern Mandarin, traditional Mandarin, Arabic, French, and Spanish. Support for other languages can be easily added. ReMarksPDF has been designed to integrate with Learning Management Systems such as Moodle 2.1, Blackboard 8 and Blackboard 9.1.

The ReMarksPDF desktop application is an easy-to-use PDF editor for educators to annotate, collaborate and report on student electronic assessment submissions. Key features of ReMarksPDF include:

- On-line and off-line marking;
- Interactive rubrics (Holistic, grading, etc);
- Criterion-based grading;
- Automatic insertion and sharing of text, sound and video based comments;
- Associate marks, criteria and comments with student assessment;
- Automatic addition of marks;
- Highlight colours with designated meanings, or in other words, colour code your documents;
- Specialist stamps designed for marking, showing the emotion of the marker for more personalised feedback to students;
- Ability to designate macros for auto text, sounds, and video links;
- Handwriting and drawing tools;
- Import and export .cvs database files, linking marking to student documents, and uploading to a reporting system.
- Drag and drop dashboard graph gallery, indicating individual and relative student performance.
- Style tool specifically designed to rapidly incorporate English style and grammar comments for essays, plus the ability to build specialist comment libraries in any discipline;
- Advanced moderation capabilities enabling statistical and visual comparison of markers, individual and global moderation of student assessment;

- Quality assurance tools;
- Security;
- Integration with learning management systems - Blackboard 8, 9.x, Moodle 2.x;
- Multilingual commentary (seven languages);
- Training and support manuals; and
- Ease of use.

The software is available for download from <<http://www.remarkspdf.com>>. Training films, manuals, an internal help system, FAQ have been provided to assist users.

Aside from the software, the project has also produced numerous research outcomes.

It is recommended that universities in Australia and internationally consider ReMarksPDF was part of their e-grading strategy.

ReMarks' aim is to assist academic staff to embrace electronic marking of student assessment, by providing high-quality tools that enable markers to explore new types of feedback and also to significantly speed up the marking and moderation process.

ReMarks encourages structural change in leadership in the sector by providing resources for training in academic markers, combined with purpose-built easy-to-use software. The software is supported by the development team and the software designer.

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Chapter 1 Project Outcomes and Impacts

The ReMarksPDF Project had six deliverables:

- Perfecting the ReMarksPDF editor
- Maintaining both the ReMarksPDF and ReMarksXML editors
- Establish trial sites for ReMarksPDF
- Research
- Internationalisation
- Marketing and dissemination

Perfecting the ReMarksPDF editor required the removal of various bugs and the improvement of the interface, particularly the moderation interface. Numerous bugs have been removed from the ReMarksPDF editor. A running bug and enhancement list is continually maintained. A new build was delivered approximately every 4 weeks. Approximately 160 defects/enhancements have been corrected or implemented during the project.

Build delivery dates:

10.06.2011	b187
21.06.2011	b190
05.07.2011	b191
15.08.2011	b195
15.08.2011	b196
23.08.2011	b201
26.08.2011	b202
26.08.2011	b203
15.09.2011	b205
21.09.2011	b206
23.09.2011	b207
15.10.2011	b209
19.10.2011	b210
28.10.2011	b211
06.01.2012	b231
17.02.2012	b234
22.02.2012	b237
12.03.2012	b238

Each of these builds was associated with complete testing and error correction. This process generally took four days per build. The ReMarksPDF editor now has a modern interface and extensive moderation capabilities.

Maintaining both the ReMarksPDF and ReMarksXML editors involved dealing with the following issues:

- Community identified bug fixes
- Community enhancement requests
- Updating training films
- Updating Manuals
- Updating inbuilt help systems
- Simplifying the software wherever possible

Numerous bug notifications came from the user community participating in trials. All have been fixed in the subsequent build releases. Some were in fact user errors, others were requests for functionality not currently supported. In each case, the user manual was updated, training materials amended, or FAQ updated.

Training films were updated every two to three months with two major releases of functionality. Manuals are updated monthly with each major release of functionality. Inbuilt help systems are updated with each release.

ReMarksPDF was considerably simplified in response to user requests. Many toolbar features were placed in a customisable configuration. Only essential and basic marking functionality was displayed to users.

Establishing trial sites proved a lengthy and complex process. A contract was signed with Griffith University for trial of ReMarksPDF with Blackboard 8.x in Semester 1 and 2, 2011. An integration specification was produced. Griffith University completed the Blackboard 8.x and 9.x Building Blocks for the ReMarksPDF integration. An integration manual for the building block was produced by Griffith University. The following institutions are currently involved in trials of the Blackboard versions: Bond, The University of Queensland, RMIT University, and Swinburne University of Technology.

Many staff at other universities are also using the software. A record of all people and organisations who downloaded the software have been kept to build an email list.

University of New England indicated they would trial the ReMarksPDF /Moodle 2.1 integration in November – February Summer School, but they abandoned the trial without notice due to higher pressing information technology priorities. Meetings have been held with University of Southern Queensland and discussions have occurred with several Moodle 2.1 universities as alternative trial sites and also as to assistance, in an advisory role, in the development of the Moodle 2.1 integration with ReMarksPDF. The University of Canberra have also agreed to be a trial site in semester 2, 2012.

CatalystIT, a specialist Moodle 2.1 development firm completed the Moodle 2.1 specification and programmed the plugin. Netspot conducted a code review prior to implementation at trial sites. The code passed review.

The ReMarksPDF project has generated several research outcomes summarized below.

- <<http://www.remarkspdf.com>>
- Numerous training films available at <<http://www.remarkspdf.com>>
- *ReMarksPDF Manual* 2012 [302 pages] available at <<http://www.remarkspdf.com>>
- *ReMarksXML Manual* 2010 [80 pages] available at <<http://www.remarkspdf.com>>
- ReMarksPDF software available at <<http://www.remarkspdf.com>>
- ReMarksXML software available from report author.
- ReMarks Moodle 2.1 plugin available from report author. This is an enterprise system plugin and is generally only available to enterprise level LMS administrators.
- ReMarks Blackboard 8 building block available from report author. This is an enterprise system Building Block and is generally only available to enterprise level LMS administrators.
- ReMarks Blackboard 9.x Building Block available from report author. This is an enterprise system Building Block and is generally only available to enterprise level LMS administrators.
- Patent: 'A Document Markup Tool', Aust 2008288670, patent pending US.
- Patent: 'ReMarks TM" Assessment and Feedback Technology'. US 7,930,300B2, Aust 2006319731, NZ 568561.
- Colbran, Stephen. 'Evaluation of the usefulness of self-assessment, peer assessment and academic feedback mechanisms', *ATN Assessment Conference 2011* – paper.
- Colbran, Stephen. 'ReMarksPDF – A new approach to moderation involving multiple assessors' – *ATN Assessment Conference 2011* – refereed poster available from report author
- Colbran, Stephen and Zhang, Felicia. 'Quality E-Assessment Workflows, *ATN Assessment Conference 2011* – workshop presentation available from report author.
- Colbran, Stephen, Garner, Michael. 'ReMarksPDF – Efficient e-assessment workflows for Blackboard 9.1 and Moodle 2.1, *ATN Assessment Conference 2011* – workshop available from report author.
- Colbran, Stephen, Nulty, Duncan. 'Accountability and transparency – applying technology to marking team moderation', *ATN Assessment Conference 2011* – workshop available from report author.
- Colbran, Stephen, Garner, Michael, Shapland, Nicola. "Efficient e-Assessment Workflows", *acilite 2011* – workshop available from report author.
- Colbran, Stephen. 'ReMarksPDF – Advanced Electronic Assessment Feedback' *acilite 2011* – poster available from report author.
- Colbran, S. 'ReMarksPDF. PDF e-marking technology nurturing student engagement', 2012 Follow the Sun, Online Learning Futures Festival, Futures for Knowledge, 27-30 March 2012. Available from festival archives.

- Colbran, S. 'e-Grading feedback methodology and practice', Association of Law Teachers, 47th Annual Conference, Oxford, 2012. Refereed conference paper available from report author.
- Colbran, S. 'E-Assessment workflows' Association of Law Teachers, 47th Annual Conference, Oxford, 2012 (1 1/2 hours) Workshop available from report author.
- Colbran, S. 'Calibration and consensus moderation of assessment' Association of Law Teachers, 47th Annual Conference, Oxford, 2012. Refereed poster available from report author.
- Colbran, S. 'The ReMarksPDF e-Grading workflow'', Transforming Assessment webinar available from www.transformingassessment.com

The ReMarks project has had a focus on internationalisation. Language translations have now been completed and updated with each build for:

- English (UK)
- English (USA)
- French
- Modern Mandarin
- Traditional Mandarin
- Arabic
- Spanish

An international marketing plan has been prepared by Anne Sorenson from Marketing Is US.

Agreement has been reached with staff from the London Metropolitan University to conduct a joint research project looking at audio and video annotations.

Approach and methodology

The ReMarks project is first and foremost a software development project based on the designs of Professor Stephen Colbran. The project uses an agile development methodology, based on iterative steps of functional development, rather than a waterfall approach.

Over a period of eight years Professor Colbran developed an extensive functional specification of all aspects of the operation of the remarks software. Extensive documents associated with the software development process were developed, including, but not limited to:

- Functional specifications
- Technical architecture documents
- Entity relationship documents
- Logical designs
- Business process models
- Test plans
- Training films
- Manuals
- Inbuilt help systems

Professor Colbran managed the project and coordinated the software development team engineers and specialist consultants.

ReMarks key participants include all Table A and Table B tertiary providers. These institutions have been briefed on the project. ReMarks' audience includes students, academics, university information technology directorates, and teaching and learning directorates. The relevance of this project is not limited to universities and is likely to extend to other sectors, such as primary and secondary education, the VET sector, business and government. ReMarks is also relevant to overseas institutions and markets. These extended audiences are essential for maintaining and developing an independent funding base for the ongoing maintenance and support of the ReMarks project.

How the project uses and advances existing knowledge

Stage three of the ReMarks project builds on two earlier stages undertaken with the former Australian Learning and Teaching Council Ltd. The priority areas were academic assessment practices, and innovation and new technologies

Literature

The assessment design must be planned and become an integral part of course design, driving student learning and effort (Kendle & Northcote, 2000), which in turn influences the direction and quality of student learning (Maclellan, 2004).

Numerous literature reviews reveal that feedback is critical to improving the standard of student work and learning (Black & William 1998a; Hattie 1999; Heinrich 2006, Huber & Mowbray 2011) and that both formative and summative assessment directly affect student engagement. Feedback, at its best is individual in focus, outlining strengths and weaknesses and avenues for self-improvement (Linn & Miller, 2005; Heinrich 2006). Students need to be given more responsibility for the assessment process (Nicol & MacFarlane-Dick, 2006) and encouraged to participate (Taras, 2001) in the process to assist their learning.

Human nature suggests that only activities that are easy and pleasant to use will become part of everyday life (Feldenkrais, 1975). Activities that focus on improving process are more likely to engage with users than those with an emphasis on product outcomes. Process is an essential design consideration in both assessment design and e-assessment workflows leading to the socialisation and adoption by academics and students.

Rust (2007) provides a useful social-constructivist assessment process model, in Figure 1, depicting the assessment process from the perspective of both students and staff. E-grading is actively involved with the workflows associated with all the processes outlined in the Rust model.

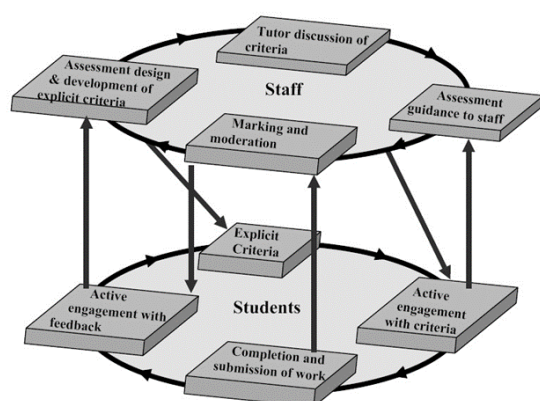


Figure 1. A social-constructivist assessment process model.

At a higher level, assessment may be broadly classified into two types, formative and summative, both of which are consistent with Rust's model.

Formative assessment guides student learning by providing structure associated with a non-threatening non-graded process. Formative assessment can provide early diagnosis of issues enabling corrective action. Grades and marks may become the focus of student activity rather than understanding what the assessment task was designed to achieve from an educational standpoint.

According to Royce Sadler (1989) effective formative assessment helps students to **recognise and clearly understand the desired goal**, and to appreciate what high quality work looks like. It provides students with evidence about how well their work matches that goal, and **helps them to develop the evaluative skill** and compare with some objectivity the work they are producing in relation to the desired goal. Finally formative assessment **explains ways to close the gap** between the goal and their current performance, and helps students to develop the skills required.

Summative assessment is based on grading, certification, reporting and admitting students to subsequent learning activities (Heinrich, 2006). Summative assessment often becomes a preoccupation with students who are fixated and motivated by grades rather than learning.

While providing feedback is essential, motivating students to use feedback is equally important. There are several strategies suggested by Zhang (2011) that may be adopted.

- Break tasks into stages. Feedback from each stage informs performance on subsequent stages.
- Enable multiple resubmission opportunities, with any grading associated with the final submission.
- Use a series of similar tasks, whereby feedback on each task informs the next stage.
- Not providing grades until students have opened feedback and written a response on their strategy to improve their next assessment.
- Focus feedback on the qualities of the individual student's work, and not on comparisons with other students (Heinrich, 2006).

- Report on the specific ways in which the student's work could be improved (Heinrich, 2006).
- Observe and comment on improvements that the student has made compared to his or her earlier work (Heinrich, 2006).

Electronic feedback management systems offer opportunities for improvement in assessment practice and outcomes for students. ReMarksPDF, an enterprise system (Blackboard 9.1 and Moodle 2.1), developed by this project is an advanced e-assessment PDF annotator for Windows, Mac and Linux – see <<http://www.remarkspdf.com>>.

ReMarksPDF has the following broad functionality: e-submission via the learning management system (LMS), allocation, marking, moderation and assessment return via the LMS, extensive annotation and commentary features, including rubrics, stamps, electronic dashboards and charts, links to electronic portfolios classified by learning outcomes or graduate attributes, and quality management capabilities including consistency, reporting, and self-reflection.

There are numerous advantages of e-submission identified in the literature review by Huber and Mowbray (2011):

- Electronic submission of assignments can assist in confronting the challenge of increasing course enrolments and maintaining a commitment to providing students with timely, accurate and quality feedback (Joy and Luck, 1999; Joy, Griffiths, & Boyatt, 2005).
- Security of assignment submission is assured (Joy and Luck, 1999).
- University paper use and labour costs are significantly reduced: (Joy and Luck, 1999: 23).
- Equity – Positive: Ease and flexibility of assignment submission. (Jones, Cranston, Behrens, and Jameson, 2005); Negative: Some students may not have access to the technology.
- Plagiarism detection (Jones, Cranston, Behrens, & Jameson, 2005).
- Electronic confirmation of submission provides students with the assurance that their assignment has been received.
- Financial savings for students, i.e. post, printing and binding costs (Bridge and Appleyard, 2008).
- Savings to the environment seen as a positive by university as well as students (Bridge and Appleyard, 2008; Barker, Fiedler & Johnson, 2008).
- Improved turnaround time and being a time efficient process (Barker, Fiedler and Johnson, 2008).
- Enterprise level backup of data.

There are a plethora of bespoke e-grading systems developed by academics and others that have failed to gain any traction in tertiary institutions. Major learning management system vendors, such as Blackboard, Moodle and Desire2Learn have developed basic marking solutions, as has Turnitin with the product GradeMark. All of these solutions have major shortcomings.

The e-assessment workflow is depicted below. It has as a starting point the enterprise learning management system. This system defines the roles of instructors, markers, and students. It also enables the creation of assessment combined with procedures enabling students to e-submit their responses.

e-assessment workflow



In units requiring multiple markers, it is necessary to allocate marking to each marker. Markers should be in the same position as each other with respect to any of the following marking features:

- Use of a standard comment bank – text, audio, video
- Use of an agreed rubric or set of criteria
- Use of agreed colour keys etc

Moderation may be undertaken as a calibration exercise before the majority of student assessment is marked, during marking and at the conclusion of marking. The prime objective being to quality assure the marking process such that students are treated fairly and transparently according to marking guidelines.

Release involves return of the marked assessment to students via the LMS with appropriate email notification. Release also involves the automatic transfer of marks to the LMS gradebook. It is essential to avoid re-entry of results and associated transcription errors.

How the project uses and advances existing knowledge

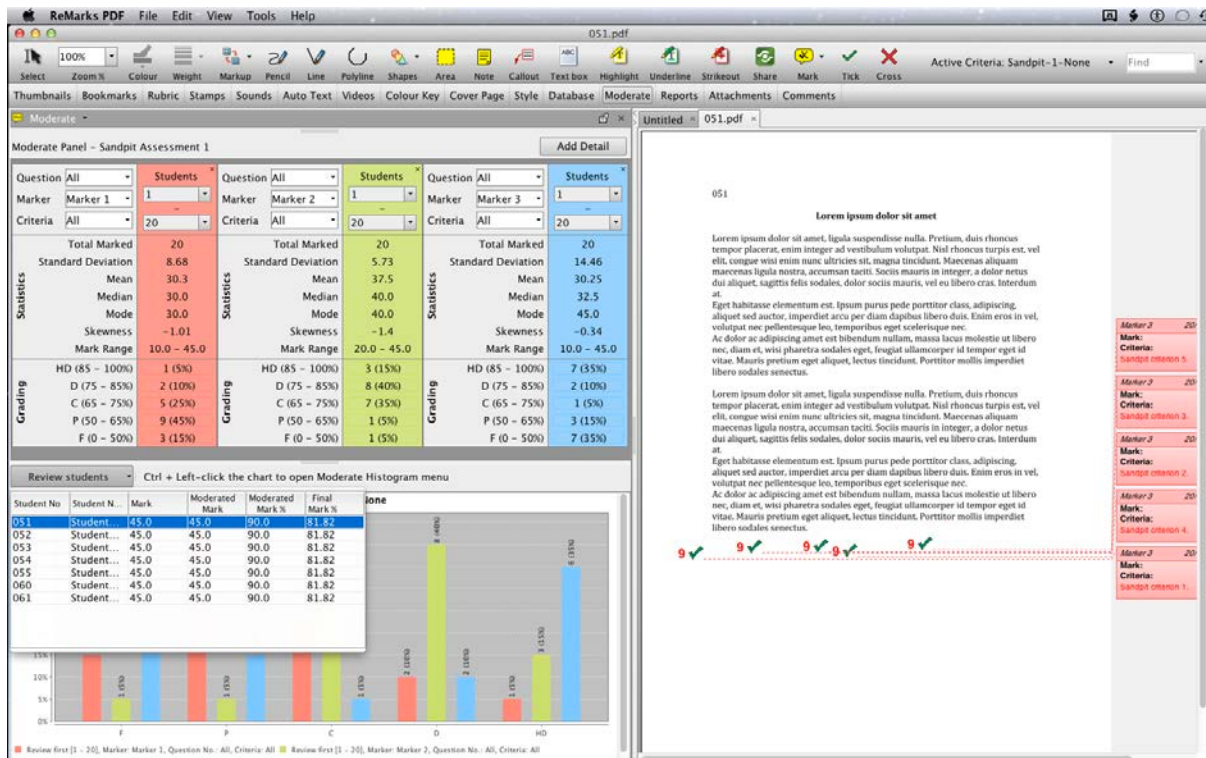
Universities use LMS such as Blackboard and Moodle to manage the educational experience of students and provide a scaffolding to achieve learning outcomes. LMS have provided a facility for e-submission of documents and more recently marking functionality limited to text comments and a very basic rubrics, of which both elements are assembled into a separate feedback sheet. The LMS workflow has major deficiencies in terms of the types of feedback available, unavailability of marking offline, and no moderation capability.

ReMarks advances the existing e-grading work flow by adding the following elements to Windows, Mac and Linux operating systems: e-grading on-line and off-line, audio grading - mark by voice, ability to build complex rubrics - holistic, analytic, etc, reduced e-grading costs, eliminate printing, eliminate transport, eliminate physical storage, reduced grading time, efficient e-grading workflows, leverage e-submission, increased student engagement, enhanced variety of feedback, new types of feedback, hyperlinks to other resources, clear and concise feedback, multi-lingual feedback, sharing of rubrics, auto text etc, build and share style libraries, support for self-assessment support for peer assessment, e-allocation to grading team, quality assurance of grading, pre-calibration grading, monitoring of the

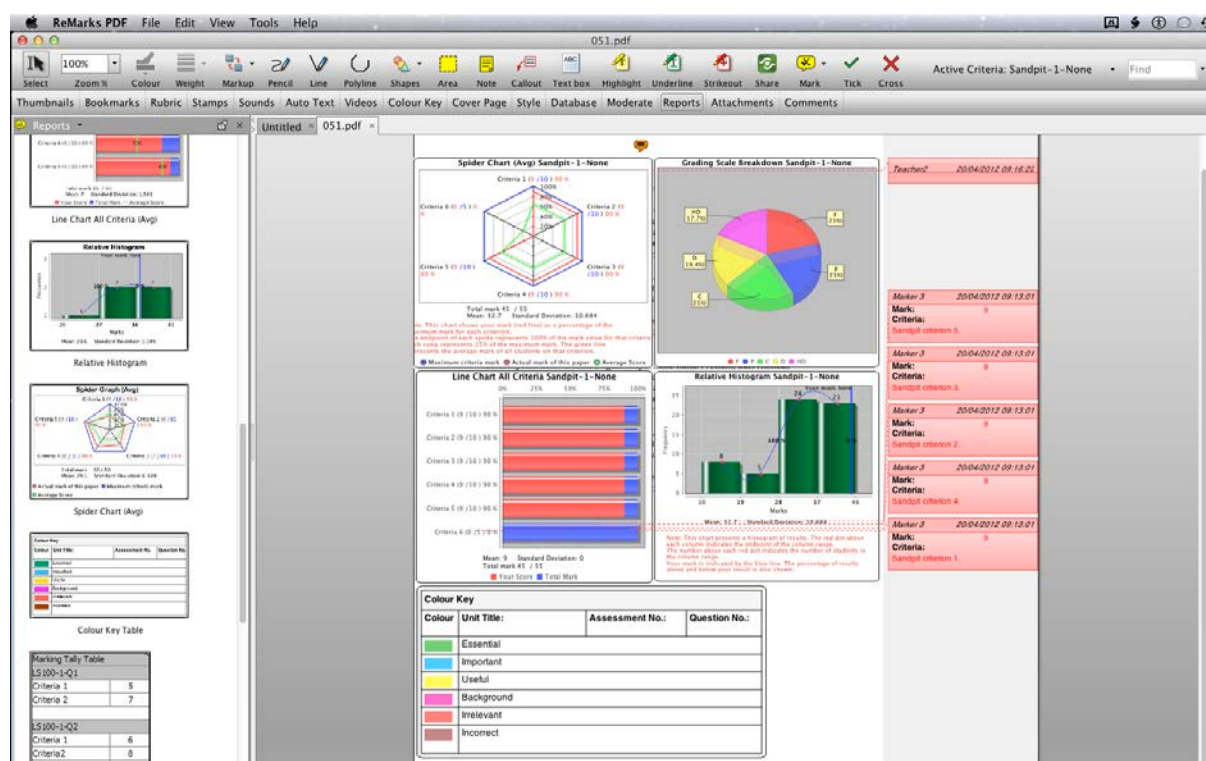
grading progress, moderation and tracking, eliminate addition errors, release via Blackboard or Moodle, grades stored in Blackboard or Moodle, electronic PDF records, rich e-portfolio content, integration with Turnitin, integration with Urkund, dedicated training, dedicated support team, built by and for academics, and easy to use.

Screenshots of some of these elements appear below.

Moderation



Smart charts and graphs



Rubrics

[illegible]

ReMarks PDF File Edit View Tools Help

007.pdf

Select Zoom % Colour Weight Markup Pencil Line Polyline Shapes Area Note Callout Text box Highlight Underline Strikethrough Share Mark Tick Cross

Active Criteria: Sandpit-1-None Find

Thumbnails Bookmarks Rubric Stamps Sounds Auto Text Videos Colour Key Cover Page Style Database Moderate Reports Attachments Comments

Style Untitled 007.pdf

Library English 英式

Structure 結構

Design 設計 Introduction

Paragraphs -

Conclusion Feedback +

Reasoning

Titles - Focus

Originality Use of language

Argument - Feedback +

Proof

Overstated Support

Precis Evidence -

Feedback -

Style

Abbreviations	Absolute words
Audience	Awkward
Clarity	Cliches
Confused words	Double meaning
Double negatives	Emphasis (lack)
Matching series	Mixed metaphor
Nouns and verbs	Overused words
Parallel structure	Passive voice
Persons and numbers	Plain English
Preposition	Qualifiers
Sentence diversity	Sexist language
Simplicity	Simile
Slang	Split infinitive
Tedious language	Tone
Vague	Variations in voice, tense
Who is speaking?	Wordiness

Construction - Feedback +

007

007 Lorem ipsum dolor sit amet

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6 ✓ 6 ✓ 6 ✓ 6 ✓ 6 ✓ 6 ✓

Marking Tally Table	
Sandpit-1-None	
Sandpit criterion 1.	6 / 10
Sandpit criterion 2.	6 / 10
Sandpit criterion 3.	6 / 10
Sandpit criterion 4.	6 / 10
Sandpit criterion 5.	6 / 10
Total raw mark	30 / 50
Moderation	0
Final mark	30

Teacher: 20/04/2012 09:24:16

Comment:
Design informs the structure of writing. Plan your structure and arguments. A well-planned essay is both convincing and effective. It commands attention from the reader. Web resources on Design, writing your assignment structure, 有關設計的結構和參數，一個精心策劃的文章說服力和有技巧。它命令你，讓讀者注意，設計你的結構有見。

Marker 1	20/04/2012 09:22:25
Criteria:	6
Sandpit criterion 1.	

Marker 1	20/04/2012 09:22:25
Criteria:	6
Sandpit criterion 2.	

Marker 1	20/04/2012 09:22:28
Criteria:	6
Sandpit criterion 3.	

Marker 1	20/04/2012 09:22:23
Criteria:	6
Sandpit criterion 4.	

Marker 1	20/04/2012 09:22:25
Criteria:	6
Sandpit criterion 5.	

Factors critical to success of the project

Software development projects such as ReMarksPDF require absolute commitment by the designer, relentless product testing, and attentiveness to user feedback. Using an Agile rather than waterfall method of development enabled targeted improvements to provide functionality sought by users and the ability to address bugs very quickly. The Agile methodology was essential to ensure that the project remained relevant to user requirements. Planning is critical to ensuring production costs are kept to a minimum. Multi-skilling across various disciplines, including law (patents, agreements), IT software development, IT business intelligence, business process mapping, marketing etc has been required for this project.

Other critical factors included:

- The use of a customer relationships management system (such as Highrise) to maintain contacts as is social networking systems such as LinkedIn;
- Very detailed functional specifications accompanied by photoshop drawings;
- Continual communication and working directly with the software engineers;
- Outsourcing software development;
- Complying with University software deployment timelines; and
- Site visits to maintain communications and relationships.

Factors that impeded its success

The single biggest issue with this project was competing information technology projects engaged in by the information technology directorates and teaching and learning directorates of various universities. Often these Directorates were under staffed, under severe stress due to unprecedented change in enterprise technology. The result of this is that priorities for software implementations and trials can change without warning.

Another issue was that various universities were on different versions of their learning management systems, in transition between systems, or were operating multiple systems. Some run their systems in-house; others have their systems hosted. The variation in management regimes and involvement of third parties adds layers of management that tend to slow down efficient implementation of projects.

Having a full-time teaching load throughout the period of the project created considerable time pressure and stress for the project leader.

Estimation of the time associated with bug fixes and enhancements is difficult with PDF applications. Unexpected complexity sometimes arises as do problems beyond your control associated with out-of-date code in legacy systems maintained by universities and hosting vendors. Communication with universities, who often change staff, face regular information technology crises, are underfunded and understaffed, result in difficulty in managing trial sites. Software licensing complexity, particularly in relation to proprietary and open source systems using GPL has also taken a considerable amount of time to resolve.

Transferability of outcomes

The cornerstone of the ReMarks project is the ease with which the software can be implemented across a variety of educational sectors and contexts. The software is been designed to be multilingual, enabling easy extension of the software into an international

context. Currently seven languages are supported. The software has also been designed to be compliant with disability standards such as colour blindness.

The decision to implement the customer relationships database (High-rise) has proved to be very beneficial as there are hundreds of contacts to maintain throughout the sector, which will build into thousands as the product gains traction.

Chapter 2 Dissemination

2.1 Materials or outcomes available

The ReMarksPDF and ReMarksXML software has been distributed to all Table A and Table B providers (as listed in the *Higher Education Support Act 2003* (Cth)). Regular build updates have also been provided via the project website. Product training manuals, training films, Sandpit files and frequently asked questions are also available from the ReMarks website. Face-to-face training sessions have been conducted at numerous universities throughout the course of the project.

2.2 National and international dissemination

The ReMarks project has a public website <http://www.remarkspdf.com>, an FTP site, and customer relationships database. The project leader has visited most table A and B providers and held seminars with senior management and IT staff.

Versions of the software have been trialled at numerous universities, secondary schools, and with individual academics in Australia and overseas. Training sessions have been conducted at many universities.

ReMarksPDF has been presented at several conferences in Australia and overseas. Trade stalls have been conducted to build awareness. Project brochures have been included in conference satchels and posters have been displayed.

The software has been the subject of many presentations and training sessions, both in-person and on-line.

Event date	Event title, Location (city only)	Brief description of the purpose of the event	Number of participants	Number of Higher Education institutions represented	Number of other institutions represented
11.02.2010	Darwin	Training CDU	12	1	None
26.02.2010	Darwin	Training CDU	22	1	None
14.04.2010	Darwin	Training CDU	5	1	None
08.06.2010	Darwin	Training CDU	8	1	None
12.08.2010	Brisbane	Presentation UQ	20	1	None
26.08.2010	Adelaide	Presentation Flinders University	2	1	None
26,27.10.2010	Brisbane	Colbran, S. 'Strategic Technology Summit, The New Media Consortium, sponsored by UQ, SLQ, Centre for Educational Innovation and Technology,	50	40	5
12.11.2010	Logan	Training – Griffith University	15	1	None
24.01.2011	Logan	Training – Griffith University	16	1	None
17.02.2011	Logan	Training – Griffith University	20	1	None
15.03.2011	Logan	Training – Griffith University	21	1	None
18.03.2011	Logan	Training – Griffith University	15	1	None
09.05.2011	Towoomba	Presentation _ USQ	35	1	None
12.05.2011	Logan	Training – Griffith University		1	None
10.06.2011	Logan	Training – Griffith University	20	1	None
16.06.2011	St Lucia	BLIX Conference display	50	2	None

27.06.2011	Brisbane	Display of software	2	AusIndustry	None
08.07.2011	Logan	Training - Griffith	20	1	None
02.08.2011	Brisbane	Skype development meeting Griffith	2	1	None
05.08.2011	Nathan	Development meeting Griffith	3	1	None
09.08.2011	Nathan	Contract meeting Griffith	3	1	None
19.08.2011	St Lucia	Presentation UQ	16	1	None
29.09.2011- 01.09.2011	Melbourne	Trade display and conference presentation – Blackboard Summit Australasia	240	50	30
06.10.2011	Brisbane	Discussion about software	2	AusIndustry	None
20.10.2011	Perth	Colbran, Stephen. 'Evaluation of the usefulness of self-assessment, peer assessment and academic feedback mechanisms', <i>ATN Assessment Conference 2011</i> – paper accepted for presentation through a double blind referee review process.	35	6	None
20.10.2011	Perth	Colbran, Stephen. 'ReMarksPDF – A new approach to moderation involving multiple assessors' – <i>ATN Assessment Conference 2011</i> – refereed poster accepted for presentation through a double blind referee review process.	40	6	None
20.10.2011	Perth	Colbran, Stephen and Zhang, Felicia. 'Quality E-Assessment Workflows, <i>ATN Assessment Conference 2011</i> – workshop accepted for presentation through a referee review process.	35	6	None
20.10.2011	Perth	Colbran, Stephen, Garner, Michael. 'ReMarksPDF – Efficient e-assessment workflows for Blackboard 9.1 and Moodle 2.1, <i>ATN Assessment Conference 2011</i> – workshop accepted for presentation through a referee review process.	40	6	None
20.10.2011	Perth	Colbran, Stephen, Nulty, Duncan. 'Accountability and transparency – applying technology to marking team moderation', <i>ATN Assessment Conference 2011</i> – workshop accepted for presentation through a referee review process.	200	6	None
27.10.2011	Online	Meeting with Uni Canberra – Felicia Zhang	1	1	None
11.11.2011	Gold Coast	Training session for instructional designers and academic staff at UQ	20	1	None
17.11.2011	Melbourne	OUA E-assessment forum	60	6	1
04.12.2011	Hobart	Colbran, Stephen, Garner, Michael, Shapland, Nicola. "Efficient e-Assessment Workflows", <i>acilite 2011</i> – workshop accepted for presentation through a blind peer review process.	30	15	3
04.12.2011	Hobart	Colbran, Stephen. 'ReMarksPDF – Advanced Electronic Assessment Feedback' <i>acilite 2011</i> – poster accepted for presentation through a blind peer review process.	45	20	5
04.12.2011 -07.12.2011	Hobart	Trade display	400	40	20

04.12.2011 -07.12.2011	Hobart	Colbran, S. 'Evaluation of alternative feedback mechanisms on student engagement with assessment feedback'. In G. Williams, N. Brown, M. Pittard, B. Cleland (Eds.) changing Demands, Changing Directions. Proceedings Ascilite Hobart 2011, http://www.ascilite.org.au/conferneces/hobart11/procs/filename.pdf Refereed conference paper and presentation	45	30	10
17.11.2011	Melbourne	OUA e-Assessment Forum demonstration 17.11.2011	50	6	2
28.11.2011	Brisbane	Training - Griffith	36	1	None
09.02.2012	Online	Training - Swinburne	7	1	None
27.02.2012	Brisbane	Training - Griffith	36	1	None
27.03.2012- 30.03.2012	Online	Colbran, S. 'ReMarksPDF. PDF e-marking technology nurturing student engagement', 2012 Follow the Sun, Online Learning Futures Festival, Futures for Knowledge, 27-30 March 2012			Unknown
1-3 rd April 2012	Oxford,UK	Colbran, S. 'e-Grading feedback methodology and practice', Association of Law Teachers, 47 th Annual Conference, Oxford, 2012 (refereed conference paper)	40	35	None
1-3 rd April 2012	Oxford, UK	Colbran, S. 'E-Assessment workflows' Association of Law Teachers, 47 th Annual Conference, Oxford, 2012 (1 1/2 hour workshop)	15	12	None
10.04.2012	Brisbane	Training session for instructional designers and academic staff at UQ	22	1	None
11.04.2012	Gold Coast	Training session for instructional designers and academic staff at UQ	20	1	None
17.04.2012	Brisbane	Rubric training - Griffith	15	1	None
02.05.2012	Online	OLT Transforming Assessment Webinar	Unknown	Unknown	None

Chapter 3 Linkages

The ReMarks projects sits well with the Transforming Assessment Fellowship presently being undertaken by Professor Geoffrey Crisp. That ALTC fellowship is interested in how assessment tasks (both formative and summative) are set and graded within the online environment. Secondly how performance data is collected and then used to give a mark and feedback to students. i.e. such that the assessment process is integrated into the online teaching environment itself. This includes having students carry out the assessment tasks, tracking performance, providing guidance, summing grades and providing feedback. The fellowship aims to create (both develop ourselves and gather from others) a collection of exemplars demonstrating complete or part e-assessment workflows within the online environment that will be showcased online and face to face at conferences, workshops, seminars and web seminars (webinars). ReMarks is the subject of a webinar held on 2 May 2012.

The ReMarks project impacts on all disciplines as it is a feedback tool designed to be embedded within universities' LMS. Some features of ReMarksPDF enable the creation of discipline specific features. For example the Style library feature includes the ability to create new style libraries. Style libraries have been created for the Australian Guide for Legal Citation, English language based on the Commonwealth Style Guide, and dual language libraries (e.g. Mandarin and English).

Chapter 4 Evaluation

Evaluation report

An independent evaluation has been conducted by Rick Nelson Strategic Management a copy of which has been attached.

Formative evaluation

The software undergoes a rebuilding process every six weeks. Each build undergoes testing by the developers as part of the agile development process. The build then undergoes extensive testing by the project designer to ensure that functionality is operating properly. The manuals and online help systems are then updated and posted together with the new release. The new release is then field tested by users, who report any bugs or enhancements back to the project leader, via the institutional trial site contact. These academic users come from a variety of disciplines. Each build is also examined by instructional design staff and trainers at each trial site. Training then often proceeds to help users adapt to the new or improved functionality.

The Moodle plugin code was independently assessed by Netspot as a quality assurance process for use of the software on their servers. Netspot hosts Moodle for numerous Australian universities.

Summative evaluation

Several empirical studies have been undertaken by the project leader to ascertain student perceptions of the use of the software. These have been reported at conferences and appear on the project website.

Evidence of the impact of the project and value to the sector

All Table A and B providers have been provided with access to project outcomes, e.g. the software, training materials etc. Trials of the software are currently being undertaken at Griffith University, Bond University, and The University of Queensland. Swinburne University of Technology and RMIT University are also in the planning phases of trials.

Two Australian patents, one New Zealand Patent and one United States Patent have been granted. A second United States Patent is being finalized.

Numerous conference presentations, workshops, training, and webinars have been conducted in disseminating the outcomes of the project.

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