Macquarie ICT Innovations Centre

Game2Design 4.0
Project Report 2011

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About this report

Project team

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In 2011, the Game Design team ran:

- *Project a: Game2Design – Kahootz project*

- *Project b: Invasion of the Shadow Plague - Game2Design Kodu project*

- *One day workshops for teachers*

- *Bootcamps for students*

- *A GAME On community video game festival*

Schools involved

PROJECTS

Iteration 4.1 a - Kahootz
Hornsby North Public School
Walgett Community College - High School

Iteration 4.1 b1 - Kodu: Invasion of the Shadow Plague
Cromer Public School
Gordon East Public School
The Forest High School
Deniliquin High School
Woodenbong Central School

Iteration 4.1 b2 - Kodu: Invasion of the Shadow Plague
Narraweena PS
Callaghan College Waratah Technology Campus
Gordon East PS
Ermington PS
Samuel Gilbert PS

TEACHER WORKSHOPS

Bankstown PS	HopeTown School
Werrington County PS	Shoalhaven HS
Hornsby North PS	Merrylands HS
Samuel Gilbert PS	Casula HS
Manly Village PS	The Forest HS
Ermington PS	Cromehurst School
Melrose Park PS	Seven Hills HS
Woodenbong CS	

STUDENT WORKSHOPS

Merrylands HS	James Ruse HS
Newtown North PS	Macarthur Anglican School
Oatley PS	Davidson High School
Arden PS	Mosman HS

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Executive Summary

About the Centre

The Macquarie ICT Innovations Centre (MacICT) is located at Macquarie University, Sydney, Australia. It is a collaborative agreement between Macquarie University and the NSW Department of Education and Communities (NSWDEC). The centre provides the opportunity for all K-12 schools to access innovative technologies in teaching and learning.

The Centre's focus reflects an innovative project-based approach to working with K-12 teachers and their students. The Centre's core business includes a comprehensive teacher professional learning and support program. MacICT staff, academic research partners from Macquarie University and school teachers collaboratively develop projects that utilise the most innovative, emerging technologies in education.

MacICT is also able to develop and implement small proof of concept projects to evaluate the use of new technologies quickly, providing feedback to our partners about the resource demands of scalability, for example.

MacICT is also able to connect and collaborate with other educational institutions and industry partners to inform the education community and provide significant research knowledge about the capacity of new technologies to enhance student learning.

Mission Statement

'to develop, implement and evaluate innovative ways of enhancing learning through the application of dynamic and emerging information and communication technologies'

To find out more please visit our website at **www.macict.edu.au** and our blog at **http://web2.macquarieict.schools.nsw.edu.au**

Industry Partners

Project Rationale

"The heart of 21st Century Learning is not about the tools, it is about learning how to learn." (Marianne Malmstrom: Technology Teacher, 2011) Learning how to use the tools is not enough, helping students become proficient and independent lifelong learners is central to their success. The Partnership for 21st Century skills (http://www.p21.org/overview) identifies essential skills for learning and ICT. These skills include creativity and innovation, critical thinking and problem solving, communication, collaboration, information literacy, media literacy and ICT literacy.

Game design offers students and their teachers a unique platform to address all of these essential skills. "Game designers traffic in the space of possibility. They design systems that define rules and thus give rise to play and to a sense that anything is possible. . . Games are all about creating spaces of possibility, where players feel that they can do anything. I believe schools can aspire to design these kinds of spaces, too." (Katy Salen: Executive Director of Design, Quest to Learn Dec 2009) Understanding the Principles of Good Game Design can be used as a starting point for more immersive learning environments and, when blended with opportunities for professional development and strong links to curriculum outcomes, can lay foundations for deep learning, innovation and change in 21st century classrooms. The game design projects and bootcamps aim to shift students' thinking from that of players to designers through learning that is situated. Students are asked to "take on" the role and behaviours of game designers to review, design and produce games. The focus is on developing a strong design methodology and an understanding of the Principles of Good Game Design in students from Year 1 to Year 10.

A socio-constructivist approach to teaching game design is employed in the Game2Design projects. Students are provided with an authentic context for effective learning through participation in workshops, bootcamps and projects that guide them through deconstructing, reviewing, designing and building games. Through participating in an online MacICT games community on our innovative teaching blog, MacICT games blog and Edmodo, the sharing of learning, ideas and games is encouraged.

Strategy: Middle Years Strategy
Syllabus Addressed: Literacy, Numeracy, and all other KLAs
State Priority Area: Literacy, Connected Learning, Student Engagement
NSR Priority Area: to foster and lead differentiated learning
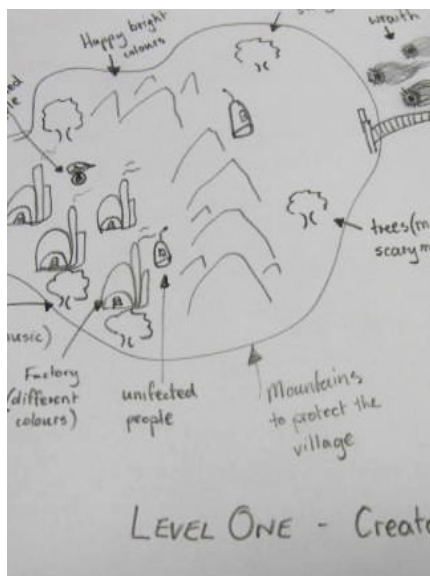
Technology Requirements

Kodu:
Supported Operating Systems: Windows 7; Windows Vista; Windows XP
A graphics card that supports DirectX 9.0c and Shader Model 2.0 or higher is required. .NET Framework 3.5 or higher is required .XNA Framework 3.1 Redistributable is required.

Kahootz:
Windows: Pentium III or better. 1GHz or above. Windows 2000 or above. 512 MB RAM, 5GB Disc, recommend 600MB free space on hard drive, 20x CD-ROM drive. 32 MB or more of video RAM compatible 3D graphics card. Direct X version 9 or newer with compatible and current "second generation" 3D graphics card.

Apple:
eMAC or better 800 MHZ or above. OSX 10.2 or above. 512 MB, 5GB disk. 300MB free.

Strategic Focus

This project links to the MacICT Strategic Plan 2011 in elements 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 4.1, 4.2, 4.4, 4.5 *(please see Appendix A).*

Conclusions from 2010

Project Development
Throughout 2010, the Kahootz game design teacher workshop and resource material were revised and refined to incorporate a stronger game design scaffold and links to the basic concepts of good game design. Video Conferences were introduced for teachers and students and proved to be successful in providing increased support from the Game Design team and enabling remote schools to participate in the project. There was significant growth in participants in the project during 2010.

Both the Kahootz game design project and the Kahootz training workshop were accredited with the NSW Institute of teachers in 2010. This resulted in increased commitment by teachers to meeting project requirements. However, difficulty still arose in teachers providing examples of exemplary games to share on the blog with other project participants**.**

Workshop Feedback
Following the Kahootz Training Workshop, teachers noted the benefits of the hands-on approach to teaching Kahootz. All teachers were extremely positive about the quality of the presentation. However, teachers did indicate that they didn't have enough time to simply play around with Kahootz.

Project Feedback
Through survey data, teachers expressed a significant increase in both their technology skills (75%) and confidence when using technology in teaching and learning (75%). The remaining 25% experienced no change in their technology skills in both cases.

Teachers who participated in the project explored and practised the game design process, blogging, wikis and software skills. By the end of the project, all participants felt that their expectations for the project, for professional learning and for personal outcomes had been realised.

Initially most participants found blogging to be a daunting task. However, many participants later noted that this was a valuable form of communication that allowed them to reflect upon their learning.

Despite introducing an half hour 'Good Game Design' VC for teachers and students in an effort to develop an understanding of the basic principles of good game design, it was evident that we were trying to achieve too much in too little time and teachers struggled with processing the volume of information. It became clearly obvious that we would need to address this in a different way in 2011.

Case Study
An extensive Case Study was conducted with 110, Year 5 students from Cromer Public School over two school terms to determine whether the Kahootz Game Design project improved student's collaborative and problem solving capabilities. The team was guided by Macquarie University academic staff, Dr. Matt Bower and Prof. John Hedberg. Following the advice of these critical friends, the project adopted more rigorous processes for data analysis.

Findings from the research data showed that student's higher order problem solving improved exponentially throughout the project and there was a growing trend towards greater collaborative learning over the duration of the project. Time and again, students made reference to the fact that designing a game was challenging and fun with students exhibiting high levels of engagement throughout the entire project. The data strongly indicated that after deconstructing and building games, students were able to identify the basic principles for making a good game and develop the meta-language necessary to describe these principles including: the need for a strong narrative, well constructed worlds, challenges, clear goals and instructions, player feedback and an increasing difficulty curve over the game levels.

Game Design Team Members
The employment of two additional members, Anthony Fennell and Simon Hutchison for the Game Design team greatly assisted with the continual development of the project and the ability to provide effective support to participants in the project to both urban and regional schools. The team operates in a highly collaborate environment under the leadership of Cathie Howe. As a result of an extensive review of literature and digital media, research and development was undertaken to towards designing a new project around Microsoft Kodu Game Lab which employs a visual programming language. This new project will employ a differentiated approach to game design from Years

3 to 10. Under the scaffold the metagame provides, students will be able to work at their own pace, develop the narrative on which their games will be based and use the resources provided to assist them in applying the principles of good game design to their games.

Kodu Cup

As a result of our research, and through experimenting with various ways of using Kodu in Cathie Howe's Year 6 class in 2010 at Cromer, the class entered their Kodu games, based on narratives the students had written, into the Asia Pacific Kodu Kup competition for students aged 10 to 14 years old. Two students from the class earned first and second place in this competition. This was positive affirmation that the approach to teaching game design that the team was developing enabled students to understand the game design process and apply basic Principles of Good Game Design to their own games.

2010 NSW Microsoft Innovative Teacher Award

In 2010, Cathie Howe was awarded the NSW Microsoft Innovative Teacher Award based on the Game Design project developed at Macquarie ICT Innovations Centre. Cathie was invited to attend the ACEL 2010 Conference, Hosting and Harvesting as well as the 2011 Microsoft Asia Pacific Regional Innovative Educators Forum in Phuket.

Student Design Showcase

A 'Student as Design Showcase' was hosted by MacICT on the 28th November 2010. The showcase included guest speakers Bajo and Hex from ABC's 'Good Game Design' and Sam Doust, Creative Director, Strategic Development at ABC Innovation. The Showcase featured students sharing what they have learnt throughout the project and showcased exemplary games to an audience of NSWDET teachers, pre-service students and University academics.

Students and adults also had the opportunity to participate together on an interactive adventure and explore a participative narrative written by Cathie Howe and Anthony Fennell with some collaboration from Year 6 students at Cromer Public School. Real and fiction were blended together in this participative narrative that invited the readers to be a part of the story. The showcase proved to be a great success, not only highlighting students as designers but gave them an opportunity to share with the adults present, their journey into game design.

Conferences and Publications

The project was strongly promoted across blogs, publications, social networks and conferences, such as:

- MacICT Game Design Blog (http://macictgamedesign.blogspot.com/)
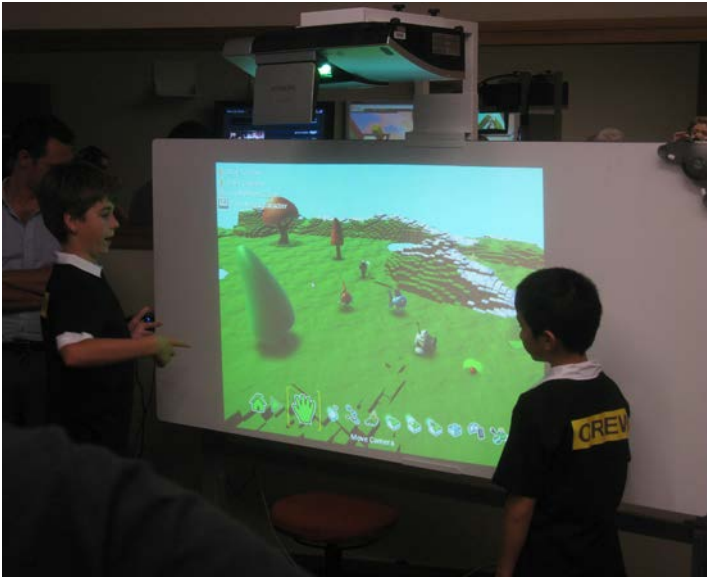
- Twitter and Yammer
- Side by Side article 'Game to Try a New Approach' (November Issue)
- Manly Daily article
- Computer Coordinators Day at Ryde Secondary College
- 2010 Office of Schools Conference: Engaging Learners Through Innovative Practice
- 2010 IWBNet 7th National Interactive Teaching and Learning Conference
- 2010 MacICT Students as Designers Showcase

Implications for 2011

Findings from the case study proved invaluable for informing the direction of the game design project for 2011. The following implications were identified for 2011:

- Strong links to literacy outcomes were observed and identified as important to strengthen in the next project.

- The immense sense of achievement and pleasure students experienced from others playing their games was also observed. Opportunities to broaden the audience would be explored in the next project.

- This evidence-based practice should continue to guide the direction of the game design project. The Principles of Good Game Design address all dimensions of the NSW Quality Teaching Framework and, when applied as pedagogy, can be the catalyst for designing more engaging classroom environments leading to improved students' learning.

- A one day 'Good Game Design' workshop would be introduced and this workshop would lead participants through the basic Principles of Good Game Design..

- Microsoft's Kodu Game Lab would be introduced as an alternative game creation tool to Kahootz. Currently, Kodu is an open beta, visual programming tool available for download from the Microsoft Fuse Lab site. It is designed to be accessible by children and enjoyable by anyone and avoids typing code by having users construct programs using visual elements via an xbox game controller or keyboard. Kodu dispenses with most "serious" programming conventions, including symbolic variables, branching, loops, number and string manipulation, subroutines, polymorphism, and so on. Users program the behaviour of characters using a rule based system based on conditions and actions. Programs are executed in a 3D simulation environment.

- The Kodu project would be 'gamified', that is, students would learn to design and build games by participating in a game that modeled the Principles of Good Game Design.

Project Objective

This project evaluates the innovative applications of game design technologies such as Kahootz and Kodu in education. The focus is on teachers employing a socio-constructivist approach that promotes inquiry learning through deconstructing, reviewing, designing and building games to achieve curriculum outcomes across most key learning areas and address all dimensions of the quality teaching framework. Directions for this evaluation includes strengthening the links to literacy outcomes by using student constructed narratives as the backstory for student created games, as well as introducing a one-day game design workshop for teachers addressing knowledge and understanding of the Principles of Good Game Design and the design process. Teachers are able to apply this knowledge and understanding to any game creation software.

The project introduces Kodu and its use of a visual programming language to expand and deepen the critical, creative, logical and lateral problem solving required to design and build games. This project can cater for a differentiated approach to game design in middle years' classrooms by scaffolding a student-centred approach and allowing for the application of the Principles of Good Game Design to all game design technologies available in schools. The project is built upon authentic learning activities designed to give students the opportunity to immerse themselves in deep learning through anywhere, anytime access to the metagame and by using free software – Kodu Game Lab.

Principles of Good Game Design have been applied to the '*Invasion of the Shadow Plague*' Kodu project. Students are immersed in a narrative based metagame where they are the 'heroes' and, through completing nine missions (supported by a video library of around 140 short Kodu tutorials) and submitting nine mission reports, students design and build three Kodu games in which the players are the heroes.

Student Direction

Both the *Game2Design with Kahootz* and the *Invasion of the Shadow Plague* project provides students with opportunities for student direction. These opportunities exist within the framework developed by the game design team.

Teachers have the opportunity to take on the role of facilitators and co-learners of the learning that is taking place. Students are encouraged to make choices about the backstory, design of game, game mechanics employed, creative 'workarounds' to solve problems and what information they need to learn to build what they want to build. That is, 'just in time learning' is encouraged. There are also opportunities for explicit teaching when introducing students to game creation software.

The *Invasion of the Shadow Plague* metagame is hosted on a private Wordpress blog (http://web2.macquarieict.schools.nsw.edu.au/games/) which allows participating students access anytime, anywhere.

Kodu can be downloaded at home as well as at school allowing for learning to continue beyond the classroom. Students are able to work through the nine project missions at their own pace, completing the Kodu activities and submitting mission reports in the form of blog posts. They are also able to view and comment on other student mission reports and games. This not only provides models for weaker students but promotes self reflection by students when they view and compare other student work. All posts and comments are moderated by the Game Design team and a strict adherence to the 'Hero Kode' (Figure 1) our rules for online behaviour are expected. Both teachers and students are encouraged to comment constructively on posts using a 'praise, inform, praise' (P.I.P) scaffold.

Students who do not submit mission reports that meet the requirements of the missions are able to re-edit mission reports as many times as they like until they achieve their mission's digital badge indicating they can level up and move onto the next mission.

Teacher Professional Learning

Teachers receive training in the Principles of Good Game Design via a one day workshop. Membership of an online Edmodo forum for teachers participating in the project allow for self reflection, the exchange of ideas and stories and an avenue for seeking help. Through using Edmodo, teachers are also exposed to a social media tool and one way that it can be used to connect and enhance professional development.

In addition, with the *Invasion of the Shadow Plague* project, with so many students from Years 3 to 10 participating in the same online space, teachers are provided with models of work from a variety of age groups and stages in learning, allowing for the opportunity to reflect on their own students' performances and identify areas for improvement in literacy and design.

Through participating in the metagame, teachers are exposed to a model based on integrating the Principles of Good Game Design into teaching game design. These principles can be generalised to any learning context in any Key Learning Area. Teachers can gain a first hand understanding of project based learning employing a socia-constuctivist approach.

Project Activities

NAME OF ACTIVITY	TYPE OF ACTIVITY	NO OF HRS	MY PL@DET COURSE CODE	COST (INCL GST)	PARTICIPANTS
Kahootz Project	Project	17	151NSR043	Nil	Project Teachers
Kodu Project	Project	17	NR01972	Nil	Project Teachers
Good Game Design	F2f Workshop	5	151NSR072	$110	All Teachers
Project Showcase	VC	1	N/A	Nil	Teachers and Students
Support VC	VC	1	N/A	Nil	Project Teachers
Student Workshop	In School student training	5	N/A	$330	Project Students
Level Up! Good Game Design bootcamps	F2f student training workshops at MacICT	5	N/A	$20 per student	Students Year 3 – 10
School visits	Project – attend showcase of student work achieved throughout project	varied	N/A	Nil	Project participants
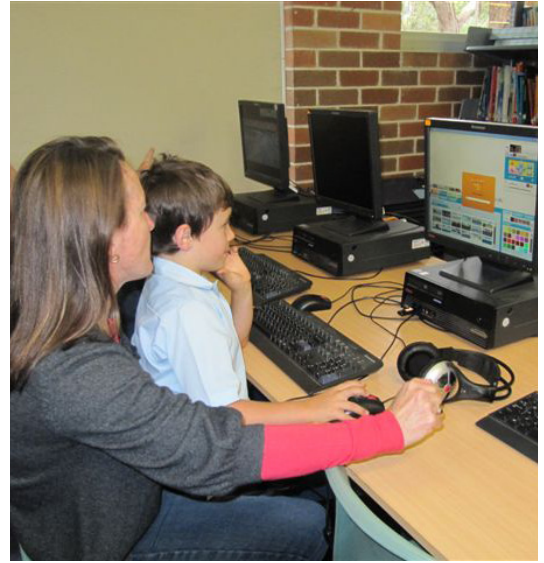
Iteration 4.1 - Game2Design with Kahootz

Description

Only one iteration of the *Game2Design with Kahootz* project was conducted this year due to the development and launch of the team's new project, The *Invasion of the Shadow Plague*. Two schools participated in the Kahootz training workshops held in term 1, Walgett Community College and, four S1 teachers from Hornsby North Public School.

The full day training workshop for the teacher at Walgett Community College was conducted successfully entirely through video conferencing. All teachers went on to implement the project in their schools. For the first time, Stage 1 students were involved in the project with four Year 1 and Year 2 classes participating from Hornsby North Public School.

Both schools accessed the Kahootz Smart Notebook resource file which provided a framework for introducing students to Kahootz while incorporating the Principles of Good Game Design. Teachers at Hornsby North worked steadily on the project throughout the year, culminating in a showcase of student work for parents and community members on the 6th December, 2011.

Feedback

Despite providing support via VC, email and through Edmodo to Walgett Central School, it was difficult to maintain consistent lines of communication which allowed for exchange of information. Information about the success and quality of the project with these students was impossible to obtain. Teacher evaluation in MyPL was completed but did not give any useful data related to student achievement. As encountered in previous years, copies of exemplar student games were not forthcoming.

Contact with Hornsby North throughout the year was maintained through email and Edmodo. Teachers were committed to seeing the project through to completion. Hornsby North teachers initiated the formation of an Edmodo group as a way to communicate with each other and the game design team. Intermittent use was made of this group throughout the year, with some sharing of feedback on progress and to seek support from the team.

"2C have picked up keypoints really quickly. They even added animations to an animal while it was moving with keypoints. When we tried to hide objects, they have some problems adjusting to the 3D nature of where they place their object. I also got them to place text to their object. They had problems again with the 3D part of their placement."

Work Samples

"1H are going well. We also looked at keypoints last week. The task was to make 3 mushrooms fall from the sky. Then the fourth mushroom had several keypoints making a tricky path. Once they had the mushrooms falling they added an action to explode the mushroom on a click. They tried each others 'game' and talked about what speed made the game too hard/easy."

Reflection

The Kahootz project continues to attract interest from teachers and is especially suited for younger students and students with learning needs. Teachers still seek support from the game design team for Kahootz training however, it is not anticipated that the *Game2Design with Kahootz* project will continue to run in 2012. This is because Kahootz is no longer being supported or developed by its creators, The Australian Children's Television Foundation, and additionally, Dataworks Australia has ceased selling copies of Kahootz 3 software (school version) and will no longer provide technical support for the product. Therefore the Kahootz project no longer reflects the Centre's mission statement.

Iteration 4.2 a - Invasion of the Shadow Plague

Description

The *Invasion of the Shadow Plague* Kodu project is a narrative based metagame built within a WordPress Blog. It offers students learning that is situated and gamelike. The project:

- requires students to take on the identity and behaviour of a hero and design games to save the people from the 'Realm of Light'.

- has a gamelike approach to learning that draws on the intrinsic qualities of games and their design.

- requires students to complete nine missions and write nine mission reports.

- provides feedback loops designed so that as each mission is successfully completed, the students earn a digital badge allowing them to level up and attempt the next mission.

While playing the game through completing the missions, students learn the Principles of Good Game Design and how to build games following an iterative process using Microsoft Kodu Game Lab. Also embedded in the metagame are strong links to literacy outcomes, cyber citizenship, critical thinking, collaboration and 21st Century skills in the uses of technology.

The *Invasion of the Shadow Plague* Kodu project sought to measure the pedagogical implications of the Principals of Good Game Design using game design technologies available in schools. The emphasis of the project was on the links to literacy outcomes by using student-constructed narratives as the backstory for student-created games and the implications of presenting and delivering an online project.

Throughout the project, the introduction of Kodu as a visual programming language was monitored, with particular focus on the critical, creative, logical and lateral problem solving required to design and build games. The potential of viewing Kodu in stereoscopic 3D to enhance student engagement and participation was also explored.

To support the project, a one-day game design workshop for teachers, addressing knowledge and understanding of the design process and the Principles of Good Game Design were introduced. The project also encouraged teachers to engage in reflective practice in an Edmodo group created for the project. Teachers were asked to post lesson evaluations, comments on lesson content and adjustments to the program they made to suit the learning styles of their students.
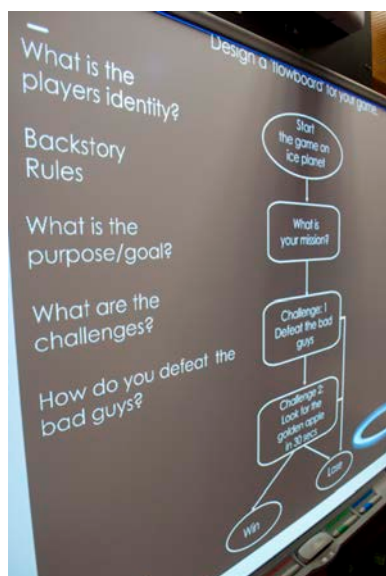
Initial Micro-Trial

- Two primary schools and three high schools participated.

- Over 600 students, ranging in age from Year 3 to Year 10.

- Initial responses to the project were huge. In the first three weeks the team moderated 1000 mission reports and by week 6 of the iteration there had been nearly 1700 mission reports submitted.

- Number of student responses was not sustained through all nine missions.

- Blog posts dwindled as students progressed higher through the missions, reflecting the increased time pressures and complexity of the missions.

- This data helped direct the second iteration of the project.

"I learned that kodu is wonderful, I love it. At first I didn't know how to do anything but now I know how to do nearly everything I'm really excited to learn more." **– Caitlyn, yr 5 Cromer PS**

"Today in kodu I learnt the basics of the program for example spawning a character and programming him to do actions such as move or shoot. I also learnt how to expand my world and change the terrain around. it seems to be a good program with minimum lag which is good so I am very pleased. Learning to navigate was simple and easy which made the experience a lot better." **– James, yr9 at Forest High**

Thanks, I was just about to write a post to say that I'm finding it difficult to get my kids to wrap this up when everything has changed. The new missions look much better by the way. They seem to have more instruction/direction for the kids to follow. Mine found it very hard to get started planning what their levels would be about and what they had to do. Having the sample 'blurb' helps a lot. **– Mrs Rodda in Edmodo**

Iteration 4.2 b - Invasion of the Shadow Plague

Description

The second iteration of the '*Invasion of the Shadow Plague*' Kodu project recognised the importance of students experiencing play with Kodu prior to designing play in the form of games. From feedback and anecdotal evidence from teachers running the project, the following changes were made:

- Time was allocated at the beginning of the project for students to 'play' with Kodu.

- Missions were restructured and streamlined to maximise students' time with Kodu while still allowing for other activities such as design.

- Mission reports were restructured with more scaffolding which allowed greater time for students to explore in Kodu. This directly resulted in several positive outcomes.

- Students genuinely appreciated the chance to be valued for their deep knowledge of video games, and for their skills in deconstructing and designing video games.

- Students relished the opportunity to think deeply about video games.

- The digital badges and the metagame structure were initially a huge motivator, and as a result student products were uploaded to the blog, and therefore collected by the Game2Design team.

- The blog provided a good system for tracking student numbers and ages, recording large amounts of data useful to future iterations of the project. This was the first time student games and writing have been successfully collected in large amounts by the game design team.

- The process for moderating and awarding badges was time-consuming. The project assistant was designated to complete these tasks.

- During the second half of term 4, moderation became the responsibility of the project leader as no more funding was available for a project assistant.

- Overall the *Invasion of the Shadow Plague* project generated a large amount of interest.

- The writing of a backstory was also modelled and further exemplar examples provided to scaffold this activity for subsequent badges.

The second iteration maintained its strong emphasis on literacy and the development of critical, creative and collaborative thinking skills. The earlier missions were heavily scaffolded to guide students quickly into designing and building with Kodu, first as a
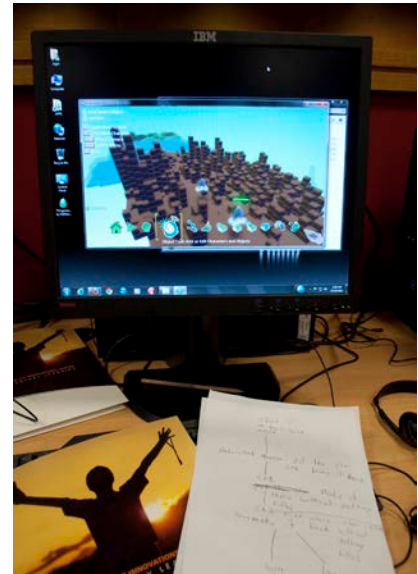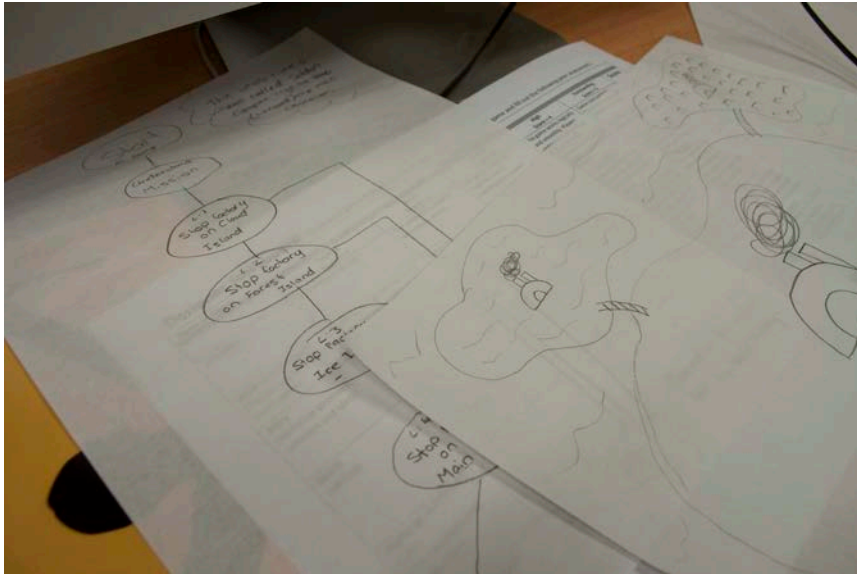
freeform play space and then in more directed activities. Expectations were also placed on project participants to upload their games in later mission reports, as a method of tracking and saving quality products.

Robo Kodu Attack!

Slowly the trees were dying... The water was being polluted... Everyone was breathing with difficulty. The Robo Kodus' had stolen the 'Golden Star of Protection' and were conquering the forest land - the Green Kodu's home land. The Green Kodu's had lost hope... except for one Kodu named KoKo. She was determined to win back the precious golden star for her homeland. Only with the help of her blips, she adventures off to find the King Robo, the one causing this grief and chaos...

(Press H for instructions)
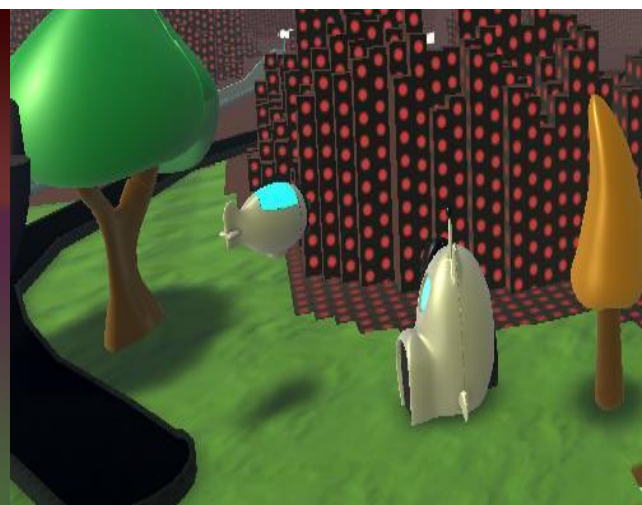
Participation Data

Invasion of the Shadow Plague Project

- 11 Teachers
- 886 Students
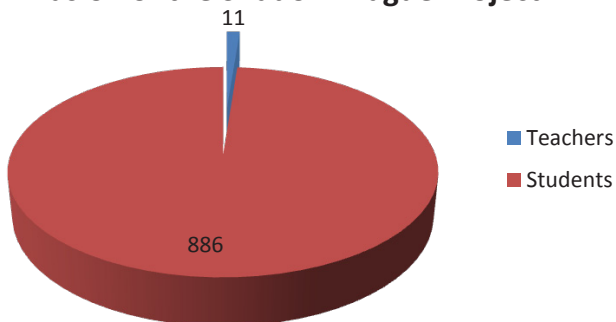
Findings

The first iteration of the project was established as a micro-trial. Teachers were encouraged to reflect on their progress in an Edmodo forum, to track their successes and offer suggestions and feedback.

> "It's easy to learn to be creative when you are excited about what you are doing."

> "There is hidden learning when designing games we learnt about maths and technology . . . and also simulations."

> "When we are designing games we are learning to solve problems in context. We come across a problem like this crash message, we have to recognise the problem, understand the problem, and its source and work out a solution. I'd rather fix a crash than some abstract scenario that I can't relate to."

Comments by Year 6 student Robert about the *Invasion of the Shadow Plague* **project**

A number of issues arose throughout the project, mainly revolving around students failing to read or follow instructions. A large number of student blog posts, particularly for higher levels and later stages of the metagame, could not be awarded simply because they failed to meet the requirements of the mission reports they related to. Posts that didn't meet requirements had their titles edited to reflect areas that students need to address in order to resubmit their posts and be awarded their badges.

However, this system didn't provide effective or direct communication with the students and as a result often such posts were left ignored by the students, leading to their badges not being awarded and perhaps a drop in motivation to pursue further badges. Despite communicating with individual teachers via email, about the quality of posts and student games, ultimately there appeared to be a lack of teacher supervision of student work which continued to be reflected in posts of poor quality. It appeared that the 15-week commitment was a major investment that many teachers couldn't sustain. It was also difficult to get teachers to complete the required feedback on the project through MyPL@DET.

It was also obvious that the quality of student games and blog posts was directly linked to teachers' understanding of good game design principles and how to apply these to creating games, the level of monitoring and feedback to students by teachers throughout the design cycle and the expectation by teachers of the quality of student work. On reflection, having teachers as key stakeholders in the initial development of the project would lead to a better understanding of project goals and stronger commitment by teachers to monitor student progress, set standards for quality of work expected and expected timeframe for project completion.

In addition to the successes and limitations, the project revealed other interesting side features. Notably, for many of our students this was their first experience blogging, and we even had a small

number of teachers attempting to become a game designer and earn badges along with their students. It was clear that the students preferred self-directed exploration when it came to learning how to use Kodu, and as a result we placed greater emphasis on in-game tutorials and activities rather than directed teaching activities. It became clear that students preferred clearer and tighter parameters when it came to making their first game, including a tightly scaffolded first level. Greater freedom should be afforded to students with more experience developing games in Kodu. Interestingly, despite being give access to a large library of Kodu tutorials developed by MacICT, these were rarely accessed. Students preferred to work it out themselves, ask their peers or expect the teachers to explain.

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Good Game Design Teacher Workshops

Description

The Good Game Design Workshops were designed to provide teachers with professional learning to support the integration of game design into classroom practise. Teachers participating in our Game2Design projects were required to complete this workshop and, it was also offered to any teacher interested in implementing game design into their classrooms, but who did not want to participate in projects. The one day workshop aimed to encourage teachers to examine games from a designer's perspective and involved teachers working collaboratively on the following activities:

- Deconstructing a game to identify story, world, challenge and identify ways the game could be improved.

- Reviewing a game addressing criteria in the designer scoreboard (rubric). Again, examining the narrative, goals, challenge/competition, player feedback and difficulty curve.

- An explanation and discussion of video game genres and career opportunities in the video game industry.

- Introduction to designing a game through creating a world map and flowboarding.

- Identifying one of the challenges in the backstory provided and designing and building a game level using Sploder.

- Discussion on ways to implement game design into the classroom.

Participation Data

The workshops were relevant to both primary and high school teachers with content easily adapted to individual school contexts and technology.

Percentage of Primary and High School teachers completing Good Game Design Workshop

44% High School
56% Primary School
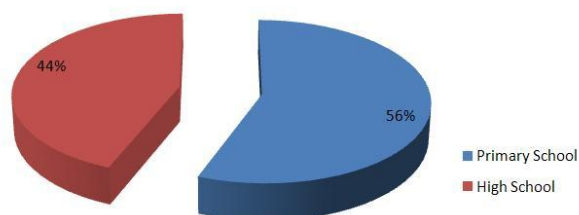
Feedback

Feedback from teachers was very positive. As a result of the course, teachers gained a deeper understanding of the elements of a good game and how game design links with curriculum outcomes. Teachers gained a deeper understanding of the metalanguage of game design providing them with the language for deconstructing, reviewing, designing and building games and articulating this with their students.

What is the most important thing you learned and why?

"Incorporating literacy into game making assessing games for redevelopment of them or creation of new ones is paramount to good game design."

"The hands on was great as well but everything was brought back to explicit quality criteria and what makes a good game."

"It's not just about the playing - it's about understanding the why and the how."

In what way(s) has this course improved your classroom practice?

"The course has given me the language to talk about game design."

"I now have a better understanding into how to manage groups of students creating games and how games can be embedded across all KLAs."

"Applying the theoretical knowledge within the Technology Mandatory syllabus."

The good game design workshops were successful in their aim of assisting teachers to understand the 'Principles of Good Game Design'. It provided teachers with practical activities that easily translated into classroom practice and teachers were able to use these activities as a springboard for introducing game design to their students.

23
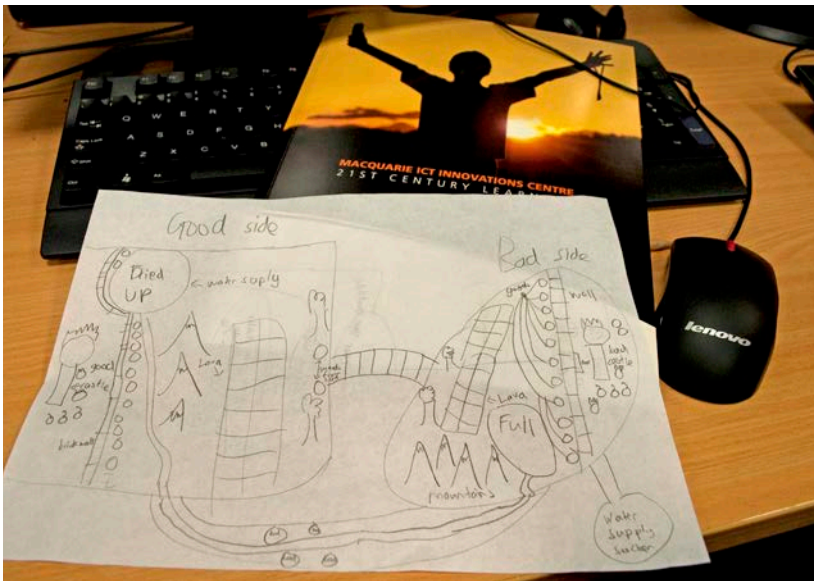
Good Game Design Student Bootcamps

Description

The Good Game Design bootcamps were part of the 3dedrats October events and, due to their popularity, continued through to December. Teachers were given the option of participating in either a one or two day bootcamp. The bootcamps aim to:

- Shift students thinking from that of a game player to a game designer through learning that is situated. Students are asked to "take on" the role and behaviours of game designers to become reviewers and, both a designer and producer of games.

- Introduce the students to good game design principles through deconstructing and reviewing games.

- Explain and discuss video game genres and career opportunities in the video game industry.

- Introduce students to design concepts through the development of a game design document which identifies: title, brief description, backstory, goal, game structure, world design, challenges and other mechanics of game play such as player feedback and difficulty curve. Students draw their world map and create a

flowboard which is a cross between a flowchart and a storyboard to document the structure of their game. Flowboard encourages a non-linear approach as good games branch.

- Introduce students to Microsoft Kodu Game Lab through the completion of selected tutorials. Provide access to MacICT's extensive Kodu video tutorial library. Students begin to build their game.

- Students export, and then upload their game to Edmodo, allowing them to continue working on their game at home or school. Ongoing communication and support with the game design team is provided through the Edmodo group.

Flowboard example
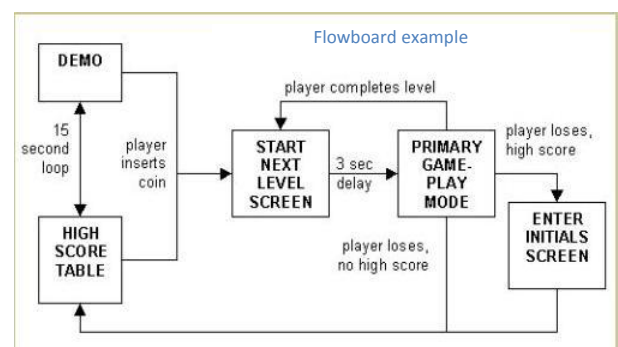
Merrylands High School – 2 day Game Design Immersion Bootcamp

The laptop team from Merrylands High School booked in for a two day immersion game design bootcamp as a springboard for a planned project designing games as part of the Year 6 to Year 7 transition program. On the first day students were introduced to the basic Principles of Good Game Designthrough deconstructing and reviewing games. Dr Rowan Tulloch from Macquarie University's new Interactive Media Institute was invited to speak about career opportunities in the video game industry. This was an eye opening activity for students who did not realise the diversity of employment opportunities in this industry. Dean Groom, Head, Education Development at Macquarie University's Learning and Teaching Centre spoke to the students about the Massively Minecraft social enterprise the co-founded. Students found both these sessions valuable.

Students were introduced to Sploder (an online game creator), Kodu and Aris (an open source tool for creating mobile learning games). The second day was spent working in collaborative groups designing, then beginning to build either a Kodu game or the Aris game that would be used as part of the Year 6 to Year 7 High School orientation day.

"I enjoyed playing the games and listening to the guest speakers" – Thomas

"I've learnt that it takes a lot of different components to create a game and there are many things you have to think about including story, world and challenge. I also learnt the basics to Kodu, atmosphir and Aris." – Sarah

"Two things I've learnt at MacICT are the basics in game designing and components." – Elizabeth

"I've learnt that games require more effort, time & thought put into it than I thought. I also learnt how to use Kodu and Aris." – Karen

"I learnt to properly analyse games by reviewing them for example, reviewing worlds made in atmosphir. I also learnt the basics of using kodu." – Eddy

"I was hoping that the workshop would last longer, it was very fun and interesting!" - Karen

Students continued to work on their games on return to school for a term as part of a project based approach to developing a Year 6 to 7 transition program. The project was largely run through Edmodo and involved an enormous amount of troubleshooting, particularly with Aris. The games will be used at Merrylands High School open day on December 5th using iphones borrowed from MacICT and with game design team members present.

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I would rate this Boot Camp ★★★★★ out of ★★★★★ stars - Andy

Participation Data

Holiday Bootcamp	• 15 students • Aged 6 - 13 years
Newtown North PS	• 30 students • Years 4 - 6
James Ruse HS	• 33 students • Year 9
Oatley PS	• 30 students • Year 5/6
Macarthur Anglican School	• 33 students • Year 10
Randwick Boys HS	• 50 students • Year 9
Davidson HS	• 25 students • Year 10
Arden PS	• 30 students • Year 5/6
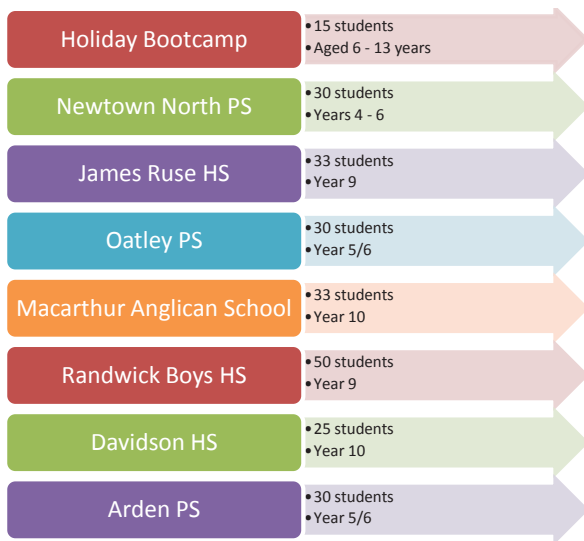
Level Up! Good Game Design Bootcamps - total participation data

14

356
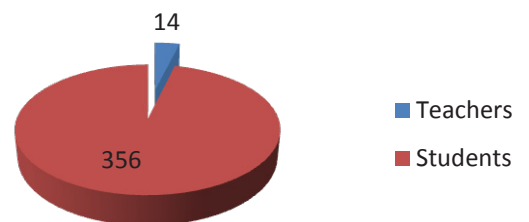
■ Teachers
■ Students

Findings

The bootcamps were very popular with teachers from primary and high schools and the October dates were quickly booked out. Extra dates were added for November and December and most of these too, were filled. Due to the large number of parent inquiries, a successful holiday bootcamp was run with students ranging in ages from 6 to 13 years old.

Verbal responses to the bootcamps were overwhelmingly positive. Both teachers and students expressed their enjoyment of the day and teachers were inspired to go back to their schools and implement a game design activity. Students remained engaged and on task all day. Though they did voice

they preferred to build games rather than design. They also enjoyed playing the games in the deconstruction and review activity.

The Edmodo groups provide an opportunity for enthusiastic students to continue to communicate with the game design team. Some students took advantage of this opportunity seeking ongoing advice and support from the game design team.

"I have a question – I can't seem to make my Kodu fast enough. I placed that 'quick' sign the maximum (3) amount of times but it's still slow. How do I make it faster? Thx! Jamie"

"Thanks HEAPS!!! Now he's moving quickly again! Jamie"

The bootcamps proved very effective in introducing significant numbers of teachers and students to game design and how it can be integrated into teaching and learning. Many teachers preferred the game design experts at MacICT to teach game design to their students rather than attend workshops themselves and then attempt to teach their students.

Teachers appreciated receiving the resources including the designer scoreboard and deconstruction sheets. Teachers valued the deconstruction activity.

"Kodu seemed a bit kiddy to start with but once I got into it found it so much more complex than I thought."

"You think you are playing and you don't even realise you are learning"

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3dedrats Game On festival

Description

The Game Design team's primary responsibility during MacICT's 3dedrats October festival was to organise the GameOn video game community festival. The Game On festival was a celebration of video game culture and the opportunity to promote the positive benefits of playing and designing games and to highlight career opportunities within the video game industry. Given the short time frame from the conception of the idea to the festival date on the 29th October, much of Term 3 was devoted to the festival organisation. The festival included:

- An indie developer's showcase where 32 developers representing nine indie studios chatted to students and adults about their game and answered questions related to designing and the video game industry.

- Information sessions:

  We play, we design, we learn - Joanne Cologon - Catholic systemic high school, Alice Leung - Public HS, Peter Robson - Independent school, Simon Hutchison - Public primary school.

  Pecha Kucha session - Gordon East PS Year 6 students

  Managing Children's Gaming Habits - Dean Groom - parent and co-founder of Massively Minecraft social enterprise.

Inside the Head of a Gamer: what is happening when we play and design games - Professor James Dalziel and Lecturer Kate Highfield

So you want to develop games? How to break into the video game industry - Dr Rowan Tulloch

- Field reporter from *Good Game Spawn Point*, Gus Reynolds a.k.a. Goose and robot D.A.R.R.E.N. covered the day and the Game On festival was the feature story on the show the following weekend. Gus interviewed people at the festival and presented a game talk about the video game industry. See: http://www.abc.net.au/abc3/goodgamesp/transcripts/s3355152.htm

- Game On Kodu Speed Challenge

- Massively Minecraft multiplayer minecraft world

- Microsoft xbox kinect trailer

- Zombie live action nerf game

- Kinect dancing

- Scavenger mobile phone ARG QR code hunt

- Mario Kart challenge

- Retro gaming hub

- Battle tetris

Participation Data
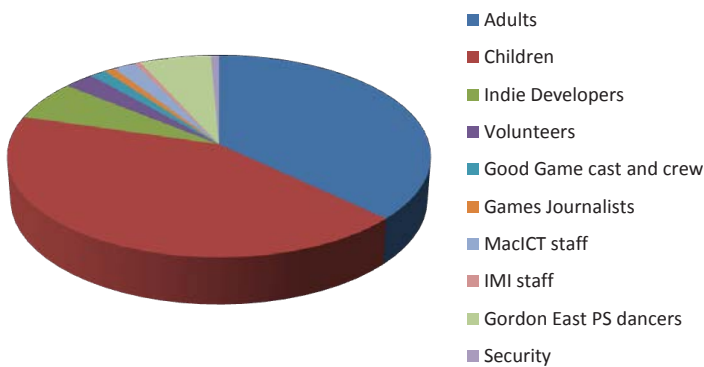
Legend:
- Adults
- Children
- Indie Developers
- Volunteers
- Good Game cast and crew
- Games Journalists
- MacICT staff
- IMI staff
- Gordon East PS dancers
- Security

Adults	212
Children	244
Indie Developers	36
Volunteers	15
Good Game cast and crew	8
Games Journalists	5
MacICT staff	11
IMI staff	3
Gordon East PS dancers	35
Security	4
Total	**573**

Findings

The Game On festival elevated the profile of MacICT in both the public and private education systems and across the community. There were higher than expected attendance and feedback was very positive. Full findings from the Game On festival can be found in Appendix K.

Reflections and Recommendations

The focus on this year from the game design team was to aim encourage as many teachers as possible to implement game design into classroom practice. We did this through running workshops, bootcamps, a festival and two game design projects. As a result, we worked with over 1250 students and nearly 60 teachers plus another 570 adults and students who attended our festival day totalling nearly 2000 students and adults. We were successful in raising the profile of game design in education and promoting its place in the curriculum. An indie developer's showcase where 32 developers representing nine indie studios chatted to students and adults about their game and answered questions related to designing and the video game industry.

• There has been a significant increase in the number of teachers interested in implementing game design as an integral part of their teaching and learning program – not just an add on.

• Microsoft's Kodu Game Lab will now be included on the 2012 DER laptop image.

• Huge increase in conversations around game design in teachers' PLNs on Twitter and Maang.

• In addition to the Game On festival led to a huge increase in the game design team's network.

The team have developed strong connections with:

Academics from Macquarie University including the new Interactive Media Institute, Department of Media, Music, Communication & Cultural Studies, School of Education, and the Department of Computing.

Indie Developer Community and several Indie studios.

NSW Trade and Investment: Creative Industries

Schools interested in game design from the Catholic and Independent School system

ABC's Good Game team

• In addition, MacICT's links to a global network of educators and designers working in this space has continued to grow.

• Cathie Howe, the project leader, has represented MacICT at the 2011 Innovative Teachers forum in Phuket, Thailand and has been invited to speak on game design at five conferences. (See Appendix F)

• The connections made with the indie game development community led to collaboration with Bubble Gum Interactive, an indie game
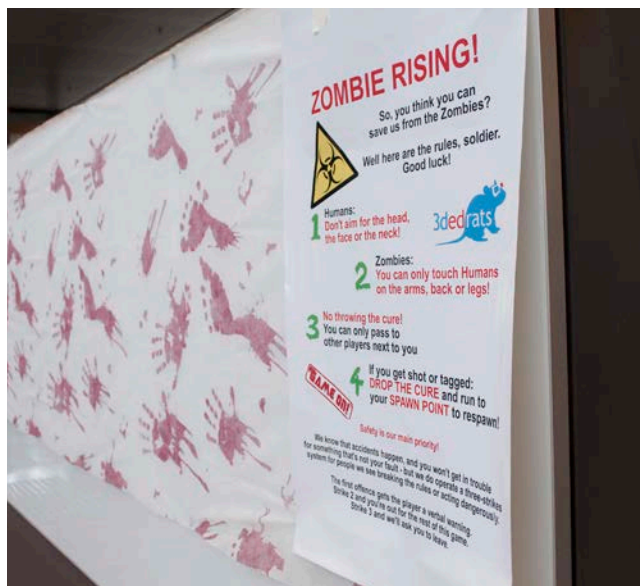
studio offering students the opportunity to beta test a real game as part of the review activity for primary school students in the Good Game Design Workshop.

- Paul Alex Gray, Director – Community Management and co-founder at Bubble Gum Interactive has agreed to join MacICT's reference group.

Good Game Design

- Through the workshops and bootcamps we implemented in 2011, students and teachers had a much better understanding of good game design principles and a scaffold for designing games.

- Introducing students to game design appealed equally to primary and high school teachers and students.

- Students preferred to build games and skip over the design stage. The design stage needs to be re-evaluated and refined to enable teachers and students to understand its importance and work at a deeper level in order to achieve higher quality outcomes.

- Unless teachers are already deeply investigating game design, attending a one day workshop does not give them the ability to teach game

design effectively. The MacICT bootcamps led by expert staff in game design were far more effective in teaching good game design principles to students.

Invasion of the Shadow Plague

- This project aimed to teach game design by using the internal architecture of games such as rules, components, core mechanics, goals, conflicts and space in the creation of the online learning space in the form of the Wordpress blog. Throughout this project, game design was used as a learning strategy for students. While the concept was solid, the game design team learnt the importance of having teachers as key stakeholders in the development of game design projects. The input by teachers working with the game design team in designing a project matching school and regional targets, would lead to greater commitment by teachers, and a deeper exploration of learning. It would give teachers ownership of the project.

- Students need more opportunity to play and experiment with Kodu prior to, or as part of the project, as this is critical to the cultivation of creativity and innovation.

- There were relatively low numbers of quality games being built as part of the *Invasion*

31

Participation data

of the Shadow Plague project. This is most likely due to teacher's lack of understanding of game mechanics and not enforcing with students the necessity of the design stage prior to building their game. It was obvious through the moderation process that many students were totally self directed but were given no expectations or accountability by the teacher for the work the students submitted. The exceptions were the game design team members who were implementing the project at their respective schools.

- While the project provided students with space and a purpose, it did not allow students the time to complete all missions. Time in addition to space and purpose is essential to ensure quality outcomes.

- A student directed project does not replace or reduce the value of the class teacher. The teacher is critical to setting expectations for mission reports, providing appropriate explicit teaching where necessary and facilitating learning

Game2Design VC's and Workshop Numbers
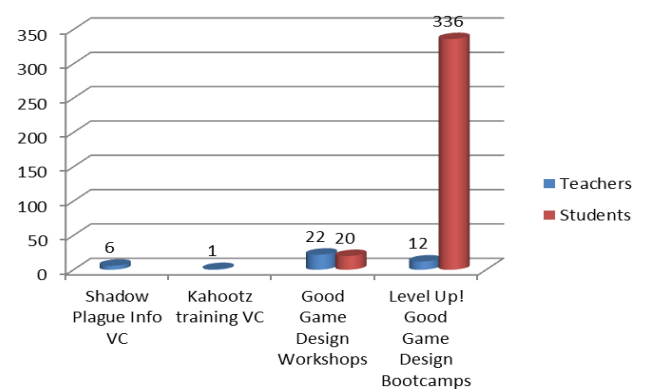
Total Student & Teacher Numbers involved in Game2Design Projects, Workshops & VC's in 2011
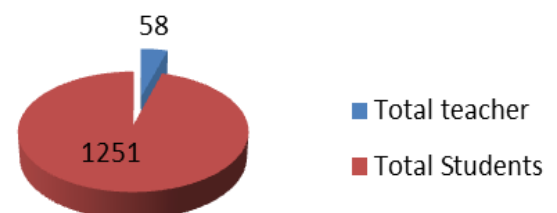
Teacher Participation by Region

- NSR
- SWSR
- WSR
- HCC
- Syd
- ISE
- WR
- NC
- Riv
- Other
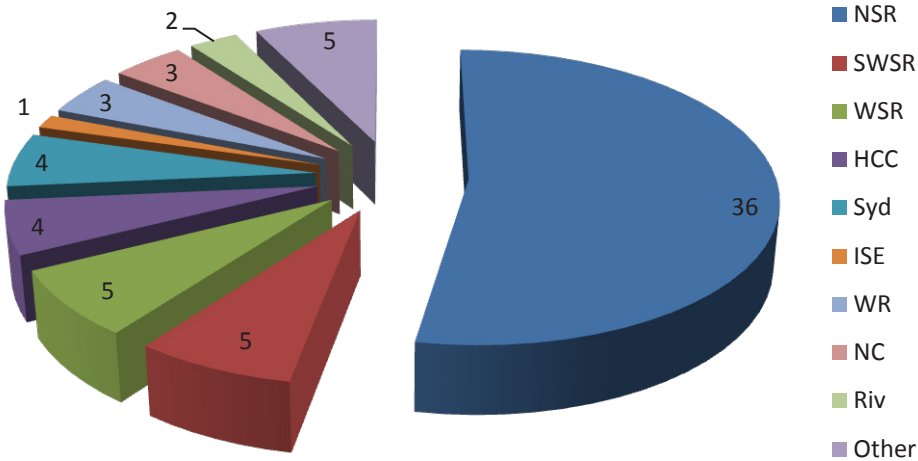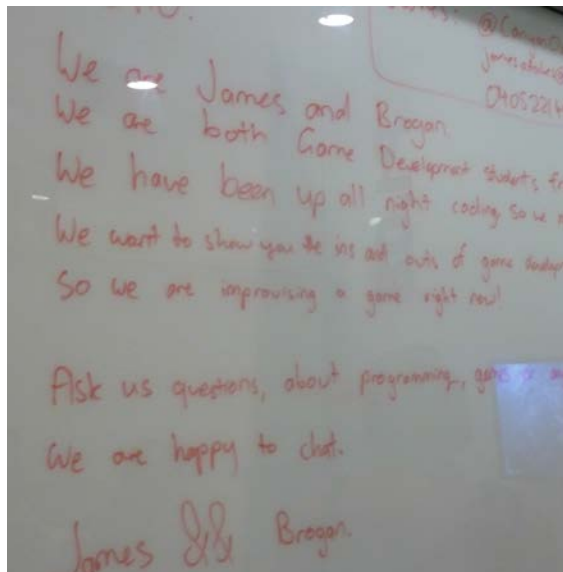
Conclusions

Projects, Workshops, Bootcamps and Game On festival

The game design workshops, bootcamps, projects and festival proved to be an effective platform for enhancing student learning, addressing the skills of creativity, critical thinking, communication and collaboration while meeting curriculum outcomes and elements from the quality teaching model. Nearly 2000 students and teachers participated in game design activities in 2011. The number of teachers interested in integrating game design into their curriculum has increased significantly and continues to rise and MacICT increasingly is seen as a Centre offering expert training and support to teachers and students in game design.

Project development

MacICT need to identify a small number of key teachers who have the strong support of their Principal and co-design game design projects that reflect school and regional targets. These projects should reflect pedagogy that involves a melding of technological, social, communicational, scientific, and creative concerns.

There are many opportunities for the game design project to grow and provide for deep contextual learning by interweaving support from and links with academics, university students and industry to primary and high school students involved in our game design projects and bootcamps.

Research

Assigning a PhD student the game design project to conduct research will further strengthen and inform MacICT's evidence based practice approach to project iterations.

Potential for development

- Continue to run Good Game Design Workshops for teachers and bootcamps for students.

- Consider running more bootcamps during the holidays catering for students whose schools cannot send entire classes.

- Work with fewer schools in order to engage teachers deeply in the project design. By valuing teacher's creativity and through collaboration with the MacICT game design team, teachers will gain a better understanding of what engagement around learning can look like and lead to. The projects would reflect an approach to learning drawn from what games do best. That is, put students into an inquiry-based, complex problem solving space that is scaffolded to deliver just-in-time learning and to use data to help students understand how they are doing, what they need to work on, and where to next.

- In build into the project the opportunity for students to gain an understanding of the importance of both iteration and prototyping in designing games, i.e. potentially working through or identifying multiple versions of an idea (or solution), identifying strengths and weaknesses of both process and solution and integrating ongoing feedback.

- Request schools to include in their TPL budget the opportunity of releasing a teacher on a regular basis to work with the MacICT Game Design team. This project would be suitable for stage 3 to stage 5 students from metropolitan, regional and remote schools. (See Appendix G) The project:

  Would provide strong links to literacy outcomes.

  Would implement project based approach to working with teachers and students.

  Aimed at increasing engagement levels in students.

- Develop a framework for design thinking where students apply design methods for innovation to both problem-solving and problem-seeking activities, needs to be developed.

- Work with a school on a transmedia project such as a participative narrative that would employ a layer of game mechanics.

- Conduct an in depth game design research project with one school involving a PhD researcher from Macquarie University and the Game Design team leader.

- Design a Mobile App Development project for smartphones. This project would aim to introduce students to app development and identify how emerging technologies support pedagogical skills and student learning when presented in an authentic and relevant context. The project would initially be aimed at students in Stage 5. (see Appendix G)

- Increase academic and industry partners.

- Extend current across state, national and global reach.

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Apendix A: Links to MacICT Strategic Plan

STRATEGIC PLAN OBJECTIVES	PROJECT ACTION
Professional Learning	
1.1 Course and project evaluations will be highly rated and regarded	The project maintains evaluations of each iteration through MyPL@DET surveys to capture pre- and post-project data and Edmodo forums to monitor and assist participants during the project.
1.2 Teacher registrations in courses will be in high demand	For the 2011 iteration 1 project, 15 teachers attended the *Good Game Design Workshop*, filling attendance to capacity. The *Invasion of the Shadow Plague : Game2Design with Kodu* micro-trial is currently capped at 700 students across two primary schools and three high schools. Furthermore, the *Game2Design with Kahootz* project is being undertaken across stage 1 by four teachers at Hornsby North PS
1.3 Course and project evaluations will drive the directions of the projects	Post-project evaluations on MyPL@DET and participant discussions on Edmodo groups drive the future directions of the project and provide an open line of communication with project participants throughout each iteration. This is especially clear during the current micro-trial of *Invasion of the Shadow Plague.*
1.4 Teacher candidates for deployment at MacICT will be of a high quality	Cathie Howe, project manager, has been awarded the *2010 NSW Microsoft Innovative Teacher of the Year* in relation to her work for MacICT. Throughout the project in 2011 teachers involved in Game Design have been asked to demonstrate innovation and lead their peers in a variety of conferences and public events.
1.5 Recognition and accreditation is available with all courses and projects	Project accreditation is a key focus and drives each project. The *Good Game Design Workshop* offers teachers 5 hours of professional learning accreditation, and the Kahootz project offers 15 hours. At time of writing, the Kodu pilot project is still in development and is currently a non-registered course on MyPL@DET.
Students' and Teachers' Participation	
2.1 School participation in projects will be sustained throughout the course of the project	The introduction into the *Invasion of the Shadow Plague* micro trial of blog posts and digital badges has resulted in high student participation and communication in a moderated and secure environment.
2.2 Improved data collection	The opportunity to provide blog posts detailing their experiences and learning discoveries has provided a wealth of student data from year 3 to year 10.
2.3 Online collaboration between teachers and students will increase	The introduction of an online blog environment offers the opportunity for teachers and students to commit and provide feedback to every participant across schools and grades.
2.4 An increased focus on middle years students in Centre projects	The *Invasion of the Shadow Plague* project has attracted the interest of three high schools throughout NSW.
Partnerships and Research Links	
3.1 Increased industry partnerships	As the micro-trial project has gained traction, we have been supported by our industry partners Sanyo and Panasonic. Moreover, the project has been given the opportunity to publicise itself and the Microsoft proprietary software it uses at the Microsoft National Roadshow 2011.
3.2 Increased collaborative research with University	Currently there are no research links with the university on this project.
3.3 Extend the current reach of the Centre, ideally across the State and possibly globally.	As this project is web based and uses social media and video conferencing for the delivering of professional development, information and support, there is tremendous potential for *Invasion of the Shadow Plague* to become a global project.
3.4 Continue to engage in sharing and discussion of research and innovation with online communities of educators	The game design team are active in discussions on various social media sites including Twitter, Yammer and Edmodo.

Appendix B: Links to North Sydney Region Plan

NSR	PROJECT
Regional Targets	*Differentiated Learning Programs* IImprove access to differentiated curriculum for all students in the middle years
Delivery strategies	*Middle/Later Years:* Two versions of the Game Design project have been implemented in 2011: G D using Kahootz and the new *Invasion of the Shadow Plague.* At least 4 video conference information and teacher training and support sessions throughout the project; full and half-day video conference training for remote school locations; teacher training workshops including good game design concept and skill development as well as software training; creation of teaching tutorials, online content creation of all resources; assessment tasks and rubrics; optional in-class student training including ongoing student-centred learning activities using game design 3D animation technologies; mentoring workshops with Game Designers and GoodGame SpawnPoint presenters, Bajo and Hex. http://web2.macquarieict.schools.nsw.edu.au/blog/2011/05/16/invasion-of-the-shadow-plague/
Assessment and evaluation strategies	Survey Monkey student and teacher evaluations; Regular Edmodo student and teacher reflections throughout project (at the end of every lesson); Student game design work samples (storyboards, booklets and games); Student online peer support discussions with other students in project; Teacher unit of work; student self-assessment, peer-feedback, parent feedback and teacher assessment tasks and rubrics; Student and teacher video interviews; 'About the Project' 3D film; Culminating game design showcase.
Regional outcomes	All students access game design technologies; All teachers adopt student-centred approaches to teaching and game design learning opportunities; All students engage in authentic game design. Increased individual capacity to lead 21st century schools.
Regional indicators	Game design technologies are embedded into student-centred teaching and learning activities.
Issues and resolutions	Currently, all blog posts are manually moderated. The platform needs scaling up to a more automated and stable platform. Solutions are currently under investigation for the next iteration. Training of MQ pre-service teachers to fulfil the moderation tasks is being explored.
Achievements	Nearly 2000 students and data involved in projects, workshops, bootcamps and festival 100 posts in 1st 3 weeks Key ideas brought forward from survey data
Research agenda / Future plans	New platform to deliver project more efficiently Use of NMI students to help with design animations etc for website Future projects/competitions/challenges linked to serious games authentic real world Kinect SDK 3D Transmedia integration

Appendix C: Curriculum Links and Quality Teaching Framework

CURRICILUM LINKS	QUALITY TEACHING FRAMEWORK
Designing a backstory	
English - WS1.13 Identifies how own texts differ according to their purpose, audience and subject matter. **English - WS2.13** Discusses how own texts are adjusted to relate to different readers, how they develop the subject matter and how they serve a wide variety of purposes. **English - WS3.13** Critically analyses own texts in terms of how well they have been written, how effectively they present the subject matter and how they influence the reader. **English - WS2.9** Drafts, revises, proofreads and publishes well structured texts that are more demanding in terms of topic, audience and written language features. E**nglish - WS3.9** Produces a wide range of well structured and well presented literary and factual texts for a wide variety of purposes and audiences using increasingly challenging topics, ideas, issues and written language features. **English - WS2.14** Discusses how own texts have been structured to achieve their purpose and the grammatical features characteristic of the various text types used. E**nglish - WS3.14** Critically evaluates how own texts have been structured to achieve their purpose and discusses ways of using related grammatical features & conventions of written language to shape readers' and viewers' understanding of texts.	**1.5 Metalanguage** There are opportunities in design projects to explicitly identify and analyse the specialist language, and provide frequent commentary on language use and various contexts of differing language use. **2.6 Student direction** Students exercise some direction over the decisions made in the design project and the means and manner by which these activities will be done.
Deconstructing games	
English - WS3.13 Critically analyses own texts in terms of how well they have been written, how effectively they present the subject matter and how they influence the reader. **English - WS2.14** Discusses how own texts have been structured to achieve their purpose and the grammatical features characteristic of the various text types used. **English - WS3.14** Critically evaluates how own texts have been structured to achieve their purpose and discusses ways of using related grammatical features & conventions of written language to shape readers' and viewers' understanding of texts. **English - RS1.7** Understands that texts are constructed by people and identifies ways in which texts differ according to their purpose, audience and subject matter. **English - RS3.7** Critically analyses techniques used by writers to create certain effects, to use language creatively, to position the reader in various ways and to construct different interpretations of experience.	**2.2 Engagement** Students are deeply involved in pursuing the substance of the lesson. They display sustained interest and attention. Activities are designed to seriously engage students in their own learning. Activities are designed such that students can be expected to display sustained interest. Most students, most of the time, are seriously engaged in the lesson or assessment activity, rather than going through the motions. Students display sustained interest and attention. **1.5 Metalanguage** There are opportunities in design projects to explicitly identify and analyse the specialist language, and provide frequent commentary on language use and various contexts of differing language use.

Science and Tech - INVS1.7 Conducts guided investigations by observing, questioning, predicting, collecting and recording data, and suggesting possible explanations. **Science and Tech - INVS2.7** Conducts investigations by observing, questioning, predicting, testing, collecting, recording and analysing data, and drawing conclusions.	
Designing games	
English - WS3.13 Critically analyses own texts in terms of how well they have been written, how effectively they present the subject matter and how they influence the reader. **English - WS2.14** Discusses how own texts have been structured to achieve their purpose and the grammatical features characteristic of the various text types used. **English - WS3.14** Critically evaluates how own texts have been structured to achieve their purpose and discusses ways of using related grammatical features & conventions of written language to shape readers' and viewers' understanding of texts. **English - RS1.7** Understands that texts are constructed by people and identifies ways in which texts differ according to their purpose, audience and subject matter. **English - RS3.7** Critically analyses techniques used by writers to create certain effects, to use language creatively, to position the reader in various ways and to construct different interpretations of experience. **Science and Tech - DMES1.8** Generates own ideas and designs through trial and error, play, modelling and making. **Science and Tech - DMS1.8** Develops and implements own design ideas in response to an investigation of needs and wants. **Science and Tech - DMS2.8** Develops, implements and evaluates ideas using drawings, models and prototypes at appropriate stages of the design process. **Maths - WM - Questioning** Students ask questions in relation to mathematical situations and their mathematical experiences. **Maths - WM - Applying Strategies** Students develop, select and use a range of strategies, including the selection and use of appropriate technology, to explore and solve problems. **Maths - WM - Communicating** Students develop and use appropriate language and representations to formulate and express mathematical ideas.	**2.2 Engagement** Students are deeply involved in pursuing the substance of the lesson. They display sustained interest and attention. Activities are designed to seriously engage students in their own learning. Activities are designed such that students can be expected to display sustained interest. Most students, most of the time, are seriously engaged in the lesson or assessment activity, rather than going through the motions. Students display sustained interest and attention. **1.5 Metalanguage** There are opportunities in design projects to explicitly identify and analyse the specialist language, and provide frequent commentary on language use and various contexts of differing language use. **2.6 Student direction** Students exercise some direction over the decisions made in the design project and the means and manner by which these activities will be done. **1.4 Higher-order thinking** Students are regularly engaged in thinking that requires them to organise, reorganise, apply, analyse generate ideas and evaluate information, processes and ideas.

Maths - WM - Reasoning Students develop and use processes for exploring relationships, checking solutions and giving reasons to support their conclusions.	
Maths - WM - Reflecting Students reflect on their experiences and critical understanding to make connections with, and generalisations about existing knowledge.	
ACARA – Creating Creating refers to the production of multimodal texts in the same way that writing refers to the production of print text.	
PDHPE - PSES1.5 Seeks help as needed when faced with simple problems.	
PDHPE - PSS1.5 Draws on past experiences to solve familiar problems.	
PDHPE - PSS2.5 Uses a range of problem-solving strategies.	
PDHPE - PSS3.5 Suggests, considers and selects appropriate alternatives when resolving problems.	
PDHPE - DMES1.2 Identifies some options available when making simple decisions.	
PDHPE - DMS1.2 Recalls past experiences in making decisions.	
PDHPE - DMS2.2 Makes decisions as an individual and as a group member.	
PDHPE - DMS3.2 Makes informed decisions and accepts responsibility for consequences.	
Building games	
Science and Tech - DMES1.8 Generates own ideas and designs through trial and error, play, modelling and making. **Science and Tech - DMS1.8** Develops and implements own design ideas in response to an investigation of needs and wants. **Maths - WM - Questioning** Students ask questions in relation to mathematical situations and their mathematical experiences. **Maths - WM - Applying Strategies** Students develop, select and use a range of strategies, including the selection and use of appropriate technology, to explore and solve problems. **Maths - WM - Communicating** Students develop and use appropriate language and representations to formulate and express mathematical ideas. **Maths - WM - Reasoning** Students develop and use processes for exploring relationships, checking solutions and giving reasons to support their conclusions. **Maths - WM - Reflecting** Students reflect on their experiences and critical understanding to make connections with, and generalisations about existing knowledge.	**2.2 Engagement** Students are deeply involved in pursuing the substance of the lesson. They display sustained interest and attention. Activities are designed to seriously engage students in their own learning. Activities are designed such that students can be expected to display sustained interest. Most students, most of the time, are seriously engaged in the lesson or assessment activity, rather than going through the motions. Students display sustained interest and attention. **1.5 Metalanguage** There are opportunities in design projects to explicitly identify and analyse the specialist language, and provide frequent commentary on language use and various contexts of differing language use.

ACARA – Creating Creating refers to the production of multimodal texts in the same way that writing refers to the production of print text. **PDHPE - PSES1.5** Seeks help as needed when faced with simple problems. **PDHPE - PSS1.5** Draws on past experiences to solve familiar problems. **PDHPE - PSS2.5** Uses a range of problem-solving strategies. **PDHPE - PSS3.5** Suggests, considers and selects appropriate alternatives when resolving problems. **PDHPE - DMES1.2** Identifies some options available when making simple decisions. **PDHPE - DMS1.2** Recalls past experiences in making decisions. **PDHPE - DMS2.2** Makes decisions as an individual and as a group member. **PDHPE - DMS3.2** Makes informed decisions and accepts responsibility for consequences.	**2.6 Student direction** Students exercise some direction over the decisions made in the design project and the means and manner by which these activities will be done. **1.4 Higher-order thinking** Students are regularly engaged in thinking that requires them to organise, reorganise, apply, analyse generate ideas and evaluate information, processes and ideas.
Reviewing games	
English - TS1.2 Interacts in more extended ways with less teacher intervention, makes increasingly confident oral presentations and generally listens attentively. **English - TS3.3** Discusses ways in which spoken language differs from written language and how spoken language varies according to different contexts. **English - TS3.2** Interacts productively and with autonomy in pairs and groups of various sizes and composition, uses effective oral presentation skills and strategies and listens attentively. **Science and Tech - INVS1.7** Conducts guided investigations by observing, questioning, predicting, collecting and recording data, and suggesting possible explanations. **Science and Tech - INVS2.7** Conducts investigations by observing, questioning, predicting, testing, collecting, recording and analysing data, and drawing conclusions. **PDHPE - DMS3.2** Makes informed decisions and accepts responsibility for consequences	**1.5 Metalanguage** There are opportunities in design projects to explicitly identify and analyse the specialist language, and provide frequent commentary on language use and various contexts of differing language use. **2.6 Student direction** Students exercise some direction over the decisions made in the design project and the means and manner by which these activities will be done.

Appendix D: Industry Partnerships

WHO	CONTRIBUTION
MQ	
Sherman Young	
Steve Collins	Co-organisers of GAME: a 3dedrats festival event
Rowan Tulloch	
Technology Providers	
Panasonic: Matthew Brown Sanyo: Grant Dimitriades Microsoft: Jane Mackarell, Lawrence Crumpton	3D Multi-touch IWB Projection, 3D Glasses Presented project at MS National Roadshow
Conferences	
MS Innovative Teachers Forum – Phuket, Thailand	NSW Innovative teacher representative – Game2Design
NSR GATs Conference	Unleashing the Gifted Potential" Game2Design - Foundations for Learning, Innovation and Change in 21st Century Classrooms
Microsoft National Roadshow	Game Design, A Teacher's story
NSR Deputy Principal Network Meeting	Emails, Social Media and What's on offer at MacICT
DEC Unconference	Facilitated Discussion leader: Game Design for Learning
IWB Solutions National Conference	Session 1: Game Design - Foundations for Learning, Innovation & Change in 21st Century Classrooms Session 2: Students as Game Designers
SMART Teachers Conference	Mini Keynote: Students as Game Designers
Planned for 2012 8/2/2012 Ark Group's 'eLearning and Instructional Design' Connected Forum	Using game design and virtual worlds for creation of interesting and engaging learning courses – a NSWDEC case study

Appendix E: GAME ON 3dedrats report

Game On Festival Aim

The Game On festival arose out of the Game Design workshops and projects Macquarie ICT Innovations Centre ran with primary and high school students. It was an opportunity to expose parents, teachers and the general public to the positive benefits of playing and designing video games. The festival also gave people who were interested in employment opportunities in the game design industry the chance to speak with indie studios and learn about different career/employment opportunities and how to get started.

Attendance

Adults	212
Children	244
Indie Developers	36
Volunteers	15
Good Game cast and crew	8
Games Journalists	5
MacICT staff	11
IMI staff	3
Gordon East PS dancers	35
Security	4
Total	573

- Numbers exceeded expectations
- Good spread of ages from primary school students through to adults.
- Large group of people in their 20's.

Library

- Info presentations were well attended.
- Sequence of speakers worked well.
- Location in the foyer was an excellent position for the information sessions.
- Quiet start to morning in the library
- Peak time on level 1 was from 11:30am onwards
- Visitors arrived to library in waves – perhaps after completing an activity at MacICT
- Parents sometimes came in to investigate indie developers first, then picked kids up and came back.

- Difficulty closing the pods as some visitors just seemed to have started
- Despite been told to bring own connections, some indie developers did not bring them. There were problems with lending cords etc to indie developers and then collecting afterwards. Otherwise some could have stayed longer.
- Retro games in view of stairs were a good idea. This proved to be popular with parents and their children. Purpose was to give parents and their children an opportunity to play together and this occurred.
- Great to see kids and their parents talking with indie developers about their games.

Feedback from Indie Developers
- Developers were very excited about the opportunity and 5 of them were active on twitter promoting the festival in the lead up.
- 100% of the 9 indie studios represented thought the festival was worth their while and expressed an interest in attending next time.
- Indie developers and presenters found the library spaces were very good.
- Some developers needed more lead up time to prepare (they found out late)
- Send developers the dimensions of the space beforehand, not just a photo
- Create signage for each pod so people knew who were there
- More signage needed in front of library to lead people downstairs
- Indie developers were very happy with numbers going through
- For some smaller indie studios, such an event is the only time they may get a chance to see dozens of their target market actually have the game in their hands, and it proved an invaluable experience for all.
- Would love to do it again and be more prepared
- Give developers option to supply their own TV, projectors for displaying game to ensure the quality they wanted.

Microsoft Kinect semitrailer

- Microsoft personal running this activity reported that the GameOn festival proved to be one of the busiest days they have encountered.

- The trailer was a huge drawcard. It's location outside the library enabled it to be clearly seen as people arrived at the university making it more obvious where to come for Game On.
- It provided a much needed additional activity for the higher than anticipated number of people at GameOn.

MacICT

- Massively Minecraft ran across two labs. It was hugely popular.
- Many parents stayed and talked to the team: Dean Groom, Jo Kay, Bron Stuckey and Jan Eade about the benefits of kids playing minecraft.
- Kids cried when asked to leave at 1:00pm because it was shutting down.
- On arrival at the info tent, the first thing many asked was, "Where was the minecraft room?"
- The Kodu rapid prototyping challenge was also hugely popular – probably due to the prizes (a Kinect/xbox bundle and Lenovo idea thinkpad)
- 4 sessions of the rapid prototyping were run.
- One session contained all primary aged kids and 2 men on their 50's!
- The last session of rapid prototyping was made up of people between the ages of 23 and 25.
- It was difficult for Anthony and Jung to choose the 'best of the fest' as they were flat out helping people. Best to have 2 – 4 people whose sole responsibility was to review games against a very simple rubric after each session.

Atrium

- Zombie nerf game was a huge success. It was very popular with people of all ages. The Atrium space was excellent for this activity.
- Games were run for under 13's and for older people.
- Some parents played with their children
- People were charged $2.00 entry and approximately $180.00 was collected.
- The set made out of cardboard boxes was an excellent solution. Light, easy to move and able to be adjusted throughout the game. It was also quick and easy to remove in preparation for the afternoon activities in the Atrium
- Gus Reynolds (Goose) and D.A.R.R.E.N. from ABC's Good Game presentation was excellent and a big drawcard.
- Having the prizes at the end ensured that many people stayed for all the afternoon's activities.
- Comment was made that the Festival was spread over 2 large an area and it would be better if all activities were in closer proximity to each other.

Advertising

- Game On was promoted through flyers, posters, conferences, workshops, advertisements in school biz, local papers, twitter, facebook, Macquarie publications and online media publications.
- On the day we had signage around the university but the main feedback was that there was nowhere near enough signage.
- Good signage on the day but not enough.
- Needed more signage pointing to activities on Level 1
- Visitors from Eden (heard from school counsellor), Lismore (attended 3 day conference), Schofield.

ABC Good Game Spawn Point
- Having Good Game cover the whole festival was an excellent drawcard
- Ben Shackleford, Segment Producer, was excellent to work with allowing for clear channels of communication. This helped so much with organisation and co-ordination.
- Ben and Gus repeatedly expressed their enthusiasm at being involved in the Game On festival.
- The festival was the feature story on Good Game Spawn Point on the 5/11/11 http://www.abc.net.au/abc3/goodgamesp/segments/feature_stories.htm

Volunteers

- Staff and volunteers were outstanding. Many working all day without a break.
- Need more volunteers as everyone was stretched to maximum.

Workshops

- 8 x Level Up! Game Design Bootcamps were run as part of the 3dedrats Game activities.
- Total of 245 students participated in the bootcamps
- These proved very popular with more schools expressing an interest to participate than dates that were available.
- Always very positive verbal feedback
- Use of Edmodo allows for continued support and communication between schools, students and the MacICT Game Design team.
- Parents who heard about the bootcamps rang the Centre wanting their children to participate.

Opportunities arising from festival

- Opportunities arising with Microsoft
  - Funding and support for a MacICT Windows & mobile phone project
  - Free access to software and training resources developed by Microsoft
  - Opportunity to participate in Microsoft's Summer Camps for Imagine Cup as Game Design experts.
- Another excellent opportunity has been the chance to collaborate with the indie studio, Bubblegum Interactive. Students involved in our projects will have the opportunity to play testing Little Space Heroes, providing an authentic opportunity for students to participate in the development of a real game. We will be able to incorporate this activity into our game design bootcamps substituting the current game the students review with Little Space Heroes. The scoreboard (rubric) we currently use was shared with Paul Alex Gray
- Director of Marketing & Community Management Bubble Gum Interactive who gave us very positive feedback. This rubric will be used by students to help focus the feedback.
- There are definite opportunities at building links between MacICT game design projects\workshops and the indie developers to provide authentic contexts for learning. E.g.'s VC's between students and developers, mentors, game design master classes for targeted students etc
- Closer links with IMI were forged. Possibilities of future collaboration.
- Approached by Professor Deborah Richards, Department of Computing MQ who is very keen to collaborate with us next year in order to provide authentic contexts for her students' assignments.

Future Proposals

- Continue with bootcamp format
- Develop links with the Indie Developer community
- Start Festival at 11:00am/12:00 instead of 9:30am and run until 4 or 5pm. This would encourage attendance and time to trouble-shoot the setup issues.
- Identify exemplary student designed games & include these in the Showcase.
- Chat with indie designers to discuss preferences for showcase e.g. whether library pods or perhaps would prefer atrium
- Approach smaller companies earlier regarding

opportunities for trade exhibit, sponsorship of activities, partnering, in kind donations.
- More activities available. Utilise more of the Atrium space where the Dance Central 2 competition was set up.
- Have the indie devs lined up where the big sponsors were going to be with mobile plasma screen hook ups.
- Have the library techs make sure the screens work the day before we use the space.
- Indie devs encouraged to bring their own presentation equipment before hand and proper description of the equipment that will be made available for them if we do. This is to avoid disappointment that our equipment might not be of a high enough quality for them to display.
- Box of labelled cords (macict) of all kinds for devs to borrow if needed
- Internet provided without filters that block Indie Devs game sites – Bubblegum Interactive had issues

Comments

MCV Pacific (media partners) spoke to developers Convict Interactive, Nnooo!, Dinoroar Interactive and Bubble Gum Interactive, who were all delighted to have the opportunity to see their work in the hands of players.

Via Rosemary Elliott IMI:
Please find below a message from a viewer of the Festival segment on Good Game over the weekend, and my reply for your information. What a terrific piece on the event!

On Sat, Nov 5, 2011 at 9:29 AM, Kerry Baker <pk_baker@hotmail.com> wrote:
Hi,
Have just seen the review of this year's GAME event. We live in Tasmania and have not heard of this before but are very excited about it. Will you be running it next year and if so, when will you be asking for registrations?
Please could you put us on the mailing list?
Thanks
Tristan and Billie-Rose Baker

From Simon Hutchison
Who would have thought 3 months ago that we could do this? I am truly amazed at the things MacICT can do.(under the conditions we were all under) The people involved in this mammoth effort all should be extremely proud. You are all awesome. I love working at MacICT!!!!

From Paul Gray – Indie Dev Bubblegum Interactive

Hi Cathie,
Thank you very much for having us take part in GAME On this weekend. We really enjoyed coming out and hearing some of the speaking sessions, checking out some other games and showing Little Space Heroes.
I also am very grateful for your help on the day getting us connected and live - I know how busy you all were. Thank you for this.

From Pam Kelly
We spoke to two women from Lismore who had come to the three day event (we should have asked how they heard about the event) and some boys from Eden (Mum drove the six hours) who had heard about the GameOn day from a careers advisor who suggested they should attend!

Very interesting to see parents come down the stairs, see the retro games and then suggest to the children that is where they should start. Two boys were there when we packed up at 1.15 trying to beat the high score that their Day had achieved on PacMan.

From Jenny Madsen
Congratulations All === BUT especially Cathie, Simon and Anthony,

A SENSATIONAL, AMAZING, INCREDIBLE Gaming Day!
It was "Action Packed" and the visitors loved it. There were so many enthusiastic gamers, enjoying the wonderful selection and variety of gaming opportunities the 'Game On' team had co-ordinated. I even met locals from my neighborhood because the day was advertised in the our High school's newsletter.

FYI We had 47 correct entries in the Mobile Scavenger Hunt and another 9 which were completed but not correct.
Lots of great feedback and learning for us too.

From Kate Highfield
It was such an impressive day - a great turn out, such a great buzz and amazing things happening all over the place. Well done you the amazing team at Mac ICT.

From Karen Blackwell
A big CONGRATULATIONS to the "Game On" Team.... what a fabulous day! I know there was sooooo much work done in preparation for today but it was really

worth it. I hope you feel the same.

I had the pleasure of speaking to a number of parents as well as children and young adults who were all so enthusiastic about gaming and about participating in such a day. A good example was the family from Newcastle who exemplified, in my words "a family who games together, stays together" (to which they wholeheartedly concurred saying "we were up at 6:00am so we could be here in plenty of time").

To Cathie, Anthony and SImon, a special "well done". Simon, your students love you and all that you have given them this year (especially those 'geeks' in your class!). Anthony, I loved your outfit and Cathie...you are an inspiration!

The number of parents, both mums and dads who were keen to learn more was outstanding.

From Jan Eade
Thoroughly agree Karen! It was just fantastic to see and hear both parents and students thoroughly enjoying the experience together.

Congratulations to everyone, especially Cathy, Anthony & Simon

Publicity

Capsule Computers
http://www.capsulecomputers.com.au/2011/11/game-on-2011-festival-day-3-wrap-up/
http://www.capsulecomputers.com.au/2011/11/macquarie-university-discuss-the-future-of-games-at-game/

games.on.net
http://games.on.net/forums/viewtopic.php?f=2&t=190360
http://games.on.net/article/14100/Meet_

Indie_Devs_and_Good_Game_Stars_Today_at_Macquarie_Uni

Bubblegum Interactive
http://www.bubbleguminteractive.com/news/showcasing-little-space-heroes-at-game-on/

Grapeshot News
http://grapeshotmq.com.au/magazine/2011/10/black-sheep-of-macquarie/

MCV Pacific
http://www.mcvpacific.com/news/tag/macquarie-university
http://www.mcvpacific.com/news/read/mcv-pacific-announces-support-of-the-macquarie-university-game-event/086589
http://www.mcvpacific.com/news/read/game-3-day-event-kicks-off-tomorrow/086995
http://www.mcvpacific.com/news/read/game-3-day-event-in-full-swing/087040
http://www.mcvpacific.com/news/read/ed-fong-and-martin-slater-confirmed-for-game-3-day-event/086947
http://www.mcvpacific.com/news/read/lineup-announced-for-game-festival-politics-of-play-debate/086415
http://www.mcvpacific.com/news/read/wrap-up-of-game-3-day-event/087060

iGEA
GAME placed on their calendar of events
http://www.igea.net/2011/10/macquarie-unit-puts-r18-classification-under-the-microscope/

Techworld
http://www.techworld.com.au/article/401525/macquarie_university_host_gaming_conference/
http://www.techworld.com.au/article/404485/macquarie_uni_puts_r18_classification_gaming_under_microscope/

Kotaku
http://www.kotaku.com.au/2011/10/game-studies-take-the-spotlight-at-macquarie-universitys-game/
http://www.kotaku.com.au/2011/10/tonight-at-macquarie-university-game-and-the-politics-of-play/

Atomic
http://www.atomicmpc.com.au/News/272720,game-festival-coming-to-macquarie-university.aspx

tsumea: Australia and New Zealand Game Developers
http://www.tsumea.com/australasia/australia/news/300911/calling-indie-developers-for-showcase-at-game-macquarie-university

The Program
http://www.theprogram.com.au/Event/01-10-2011/3dedrats-festival

NSWEvents
http://www.nswevents.com/Event/29-10-2011/game-on-festival
http://www.nswevents.com/Event/29-10-2011/indie-game-developer-showcase/?page=1&sortBy=Date

Events Macquarie University
http://www.pr.mq.edu.au/events/index.asp?ItemID=4652

AroundYou: Let's get Local
http://www.aroundyou.com.au/events/game-conference#.TrC1h5uBq0s

reddit
http://www.reddit.com/r/MacUni/comments/kgyyd/game_a_public_debate_
miniconference_and_gaming/

IMI
http://imi.mq.edu.au/game/

Computer World
http://www.computerworld.com.au/article/401525/macquarie_university_host_gaming_
conference/

MQ Uni
http://www.pr.mq.edu.au/events/index.asp?ItemID=4652

OZCrunch
http://www.ozcrunch.com/2011/09/21/macquarie-university-to-host-gaming-conference/

Appendix E: Expressions of Interest Forms 2012

Macquarie ICT Innovations Centre

Building C5B, Macquarie University
Balaclava Rd, North Ryde, NSW 2109
www.macict.edu.au

T: (02) 9850 4310
F: (02) 9850 4311
E: macictsupport@det.nsw.edu.au

2012 Game2Design Project: Stage 3 to Stage 5
Expressions of Interest

Designing rich game worlds with interesting and creative narratives can enhance and transform students' educational experience while meeting cross curricular outcomes. Harnessing this potential, calls for an understanding of good game design principles and their application to designing and building games. Participation in the Game2Design project:

- Is suitable for stage 3 to stage 5 students from **metropolitan, regional** and **remote** schools.
- Will provide strong links to **literacy** outcomes.
- Is a **project based** approach to working with teachers and students.
- Aimed at increasing **engagement** levels in students.

Students will:

- Be involved in deconstructing, reviewing, designing and building games.
- Be empowered to be creative and innovative
- Have opportunities to work collaboratively and showcase work to a wide audience
- expand skills in multi-literacies using a technologies using VC, blogging Edmodo, and social media

Participation in the project includes:

- Two professional learning days including a training day and a project planning day.
- Access to training, resources and ongoing support.
- Becoming a key stakeholder in developing a game design project relevant to your school context that addresses regional and school targets.
- Participation in events to showcase achievements.

Teachers will:

- Develop online collegial relationships with other project participants.
- Acquire new skills in integrating ICT that fulfil professional learning standards.
- Collect student work samples, digital images, video or audio recordings that provide feedback about the project, its implementation, outcomes and strategies for refinement.

Interested applicants must:
- Email an expression of interest to lyrian.mcgregor1@det.nsw.edu.au indicating: name of school, name of Principal, co-ordinating teacher and preferred phone contact, curriculum area (if a High School teacher)
- Attend a video conference information session after school (date announced early Term 1, 2012) accompanied by a senior executive. *Applicants must have the approval of their Principal to be considered for participation in this innovative project*.

Cost: $250.00

Additional opportunities include: linking to the indie game development community, participation in Master Classes and mentoring of exemplary students.

Macquarie ICT Innovations Centre is a collaboration between the NSW Department of Education and Communities and Macquarie University

MACQUARIE UNIVERSITY

Macquarie ICT Innovations Centre

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2012 Game2Design: Mobile App Development (M.A.D.) Project

Expressions of Interest

Not only do students like to play games, now they want to make them. Developing apps for the Smartphone market has become a viable source of income for many game developers. The M.A.D. project aims to introduce students to app development for Windows Smartphones. This project identifies how emerging technologies support pedagogical skills and student learning when presented in an authentic and relevant context. The M.A.D. project is suitable for students in **Stage 5.**

Students will:

- develop Windows 7 Phone Apps for mobile phones.
- upload Apps to Window Phone Marketplace if they meet the criteria.
- work collaboratively in project teams to design and build their app.
- expand skills in multi-literacies using technologies using VC, blogging and social media.
- Have opportunities to work collaboratively and showcase work to a wide audience

Participation in the project includes:

- Two professional learning days including a training day and a project planning day.
- Access to training, software, Win 7 Smartphones and ongoing support.
- Becoming a key stakeholder in developing a game design project relevant to your school context that addresses regional and school targets.
- Participation in events to showcase achievements.

Teachers will

- Acquire new skills in integrating ICT that fulfil professional learning standards.
- Collect student work samples, digital images, video or audio recordings that provide feedback about the project, its implementation, outcomes and strategies for refinement

Interested applicants must:

- email an expression of interest to Lyrian.McGregor1@det.nsw.edu.au indicating: name of school; name of Principal; co-ordinating teacher and preferred phone contact; curriculum area.
- attend a video conference information session after school (date to be announced early Term 1, 2012) accompanied by a senior executive.

Applicants must have the approval of their Principal to be considered for participation in this innovative project.

Cost: $250.00

Additional opportunities include: linking to the indie game development community, participation in Master Classes and mentoring of exemplary students.

NEW SOUTH WALES DEPARTMENT OF EDUCATION AND TRAINING

MACQUARIE UNIVERSITY