Digital Divas

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Mrs Jenny Looker Canterbury Girls' Secondary College
Ms Katie Foster Monash University

Outline of session

- Background of project and justification for Digital Divas (Kathleen Bennetts)
- Outline of curricula, and the teacher's perspective (Jenny Looker)
- The role of the Expert Diva (Katie Foster)

Background . . .

- Digital Divas is funded by an Australian Research Council (ARC) grant that permits the trial to be extended and expanded over three years.
- This research is the first large scale study of an intervention program targeting girls in years 8, 9 and 10, Australia wide.
- It is hoped that the research will benefit girls' educational outcomes, and have an impact on the gender divide in IT classrooms and industry.

Partnering with **. . .**

- **Monash University;**
- **Swinburne University of Technology;**
- **Deakin University.**

- **DEECD;**
- **Australian Computer Society;**
- **Victorian ICT for Women Network;**
- **Netspace;**
- **Brentwood Secondary College.**

Objectives

- Enthuse and excite girls' interest in IT within a school setting.
- Focus on girls' learning preferences.
- Link applications and use with careers in IT.
  - *University student classroom facilitators*
  - *Guest speakers*
  - *Brand development and ownership*
  - *Celebration event with parents and wider community*

Research approach and methods

- Research question: *"What stimulates girls' interest in learning about IT and IT careers?"*
- Longitudinal evaluation of attitudinal change towards IT
  - *differences in the numbers of girls choosing IT units or courses in later years in schools in project*
  - *Attitudinal change in wider school community/parents*
- PhD student research: *community attitudes to girls and IT.*

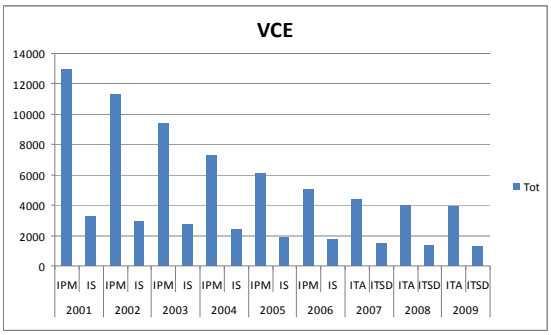
Expected outcomes

- A series of online modules that can be adapted for various year levels
  - *Teacher instruction sheets*
  - *Student instruction sheets*
  - *Assessment conforming with VELS*
- A networked community of schools, university departments and IT professionals supporting each instantiation of the program
- A secure portal for students and teachers to share resources
- Scholarly evaluation of the effectiveness of the program

Research Instruments

- Interviews with teachers and students – pre and post;
- Surveys for teachers and students – pre and post;
- Demographic information;
- Researchers' observations;
- Expert Divas' observations and interviews;
- Girls' online blogs etc.

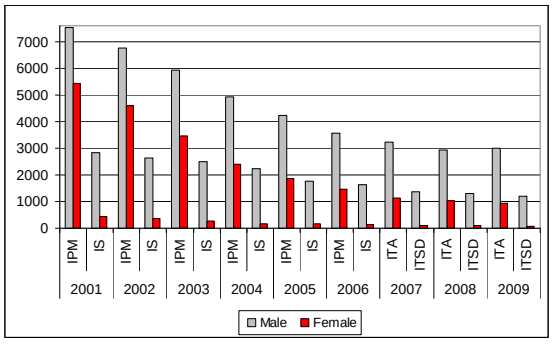
VCE IT unit enrolment trends



VCE Unit 4 completion outcomes = S

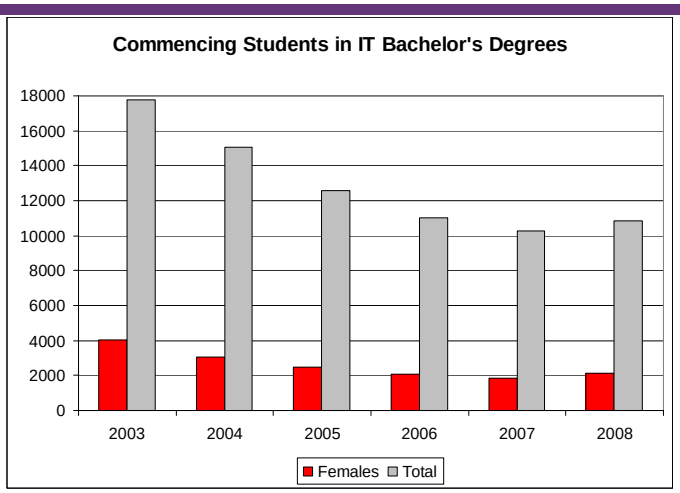
(ref: www.vcaa.vic.edu.au/vce/statistics/)

VTAC Application Trends



From 25% female in 2000-1 to 15% in 2008-9

Enrolment trends in University IT courses



Enrolments in IT Bachelor's degrees slight increase between 2007 and 2008

Digital Divas – an elective

- DD is a part of the curriculum, as opposed to a lunchtime/afterschool activity;
- DD runs as a full elective ie as one double period minimum, but the configuration is up to each school to determine;
- Flexibility allows for schools to adjust the program and assessment to meet their own needs and broader requirements.

Curriculum Courseware

Topic	Theme	Software/hardware	Learning objectives/outcomes
Shake the Bottle, Wake the Brand	Branding	Flash or Photoshop Colour printer Internet Google apps (on-line survey) PowerPoint	Creating a Digital Diva identity. Designing and creating logos and slogans using a vector based program. Understanding why organisations value branding, including brainstorming, planning, branding and marketing to design, a unique logo and slogan to represent Digital Divas for that semester.
Lights, Camera, Action	Communication, collaboration	Video editing software MovieMaker or Premier Pro or iMovie Internet	Creating a movie for a specific audience outside of Australia. Planning, research & design involves script writing, storyboards, mind-mapping, production and evaluation - receiving feedback from intended audience. (Teamwork)
Chefs Delight	Design and creation of an on-line system	Excel Internet	Brainstorming, collecting and analysing data, transferring data into a spreadsheet to create an online system. Creating combo boxes, macros, if statements, formulae, VLOOKUPs, 3D referencing and conditional formatting.
Fab & Famous	Developing a Critical eye for media	Photoshop	Looking at how the advertising industry edit and modify images for magazines and commercial products for advertising. Using Photoshop to create a magazine cover that has edited images. Discussing the ethics and morals of models and how women are portrayed in the media.
Mythbusters	Research careers (pairs)	PowerPoint Software to watch external movies .AVI Windows Media Player/QuickTime	To broaden students views on how I.T. is used in different industries. Job opportunities for working in the I.T. industry. External speakers. Combined with visit to Deakin for Girls I.T. Day. Busting four myths about I.T.
Alice	Programming	Alice 3D free software	Storytelling with Alice – introduction to object orientated programming. Understanding Algorithms and basic programming concepts such as program variable declaration, conditional and looping constructs.
Wiki Wiki	Web technologies	Microsoft Office	Web 1.0 verses web 2.0. What does it mean? And what's the difference? Broaden your I.T. terminology and compare methods of communication.

Branding for Digital Divas

- Girls to take ownership of Digital Divas
  - Branding - designing of their logos
  - Slogans
  - Skills developed using Flash Macromedia or Photoshop
- The girls vote online for their winning logo that will be used as the Digital Divas brand for merchandise I.e. key rings etc
- Headers for all assignments and for Blog header.

Digital Divas
A Brighter world for girls IT
Digital Divas
Unleashing your wildest imagination

Fab & Famous

Fab & Famous

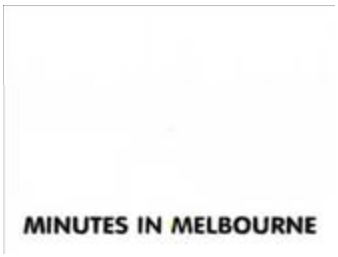
http://demo.fb.se/e/girlpower/retouch/retouch/index.html

- Demo & talk by make up artist
- Dispel myths and misunderstanding in the model industry or technologies used
- How IT was used to fool potential customers into buying products such as mascara

Dove Advert

Lights, Camera, Action!

Skills:-
- ✓ Storyboarding
- ✓ Scripts
- ✓ Props
- ✓ Timings
- ✓ Teamwork
- ✓ Video editing
- ✓ Reflections



Two different movies highlighting attractions of Australia, Victoria

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Online System

The Challenge was for the girls to create an online system for a restaurant that could provide healthy food choices to customers of a health and fitness gym.

Creating an online System

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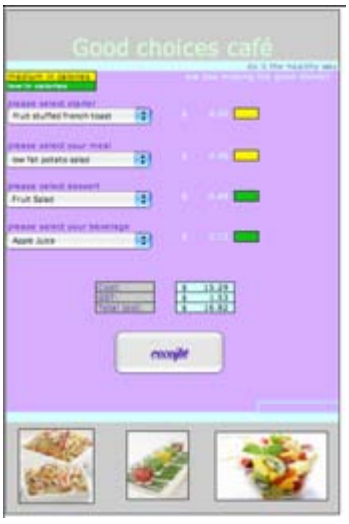
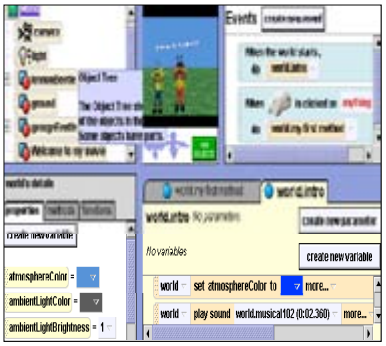
Conditional formatting



Intro to programming

- A robot was asked to make a jelly and peanut butter sandwich

Storytelling with Alice



3D virtual worlds
Understanding the logic of programming
Create;
Events
Behaviours
Methods
Functions
Variables
Perimeters
Recursion

Worlds contain objects
Gallery objects

For Mac and PC

http://www.alice.org/

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Linking to careers

- Guest speakers:
  - IBM architect
  - Netstart network engineer
  - Google Programmers
  - IBM business analyst
  - PhD student working on the bionic eye
  - Go Girl – Go for IT day
  - Jav IT
- Role of Facilitators / Expert Divas
  - Current university students in IT

Thinking tools

- Inspiration - brainstorming ideas for their movie
- Flowcharts - used to create simple algorithm
- Lotus diagram to consolidate knowledge of web 2.0 technologies
- Venn diagram to compare myths and truths

Digital Divas Online Portal

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Digital Divas Online Portal

Introduction

- The Digital Divas Online Portal aims to be a series of websites where everyone involved in Digital Divas can access relevant information and collaborate with other people

Aims

- Provide information to general public
- Provide Portals for students, teachers and facilitators
- Provide 'Cloud Computing' where relevant resources are stored in a central location and can be accessed from anywhere by students, teachers and facilitators
- Pass control to Teachers to create a custom Portal that fits their needs and the needs of their students

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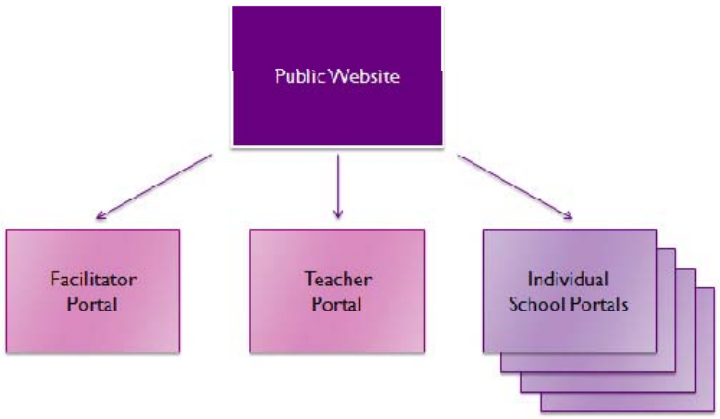
Portal Architecture



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Portal Information

Hosting

- Privately hosted on commercial Australian web server
- 24/7 access, unlimited bandwidth

Security

- Access is restricted to authorised users
- Student, facilitator and teacher information is separate and accessible only by authorised groups

Platform

- Drupal CMS – open source, flexible, extensible, large support community

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Public and Facilitator Portals

Public Website

- Public face of the Digital Divas Program with information, unit summary, contact info etc

Facilitator Portal

- Communicate with other facilitators
- Share resources
- Blog experiences

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Teacher Portal

Downloadable Challenges

- Download Challenge units for use online and in class

Wiki

- Instantly access information and guides from the Portal

Communication

- Communicate with other teachers within the Digital Divas Project

Collaboration

- Contribute resources and Challenges

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School Portals – Back End

Portal Installation

- Each school has their own Portal
- Personalised domain name - i.e. brentwood.digitaldivasclub.org
- Portal installation, including user accounts set up by DD Administration

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School Portals – Back End

Portal Content

- Portal is owned by teacher
- Teacher chooses and uploads content and functionality
- Can customise appearance and structure
- Extensive guides via teacher wiki and further support from DD Admin

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School Portals – Front End

Challenges

- Challenge topics and resources are accessible in class and from home

Blog

- Students can contribute to personal and/or group Blogs

Mentoring

- Facilitators and students can communicate in a structured discussion

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School Portals – Front End

File Uploads

- In 2011, students will be able to submit work online, from home or in class

Announcements

- Teachers can post announcements and reminders

Polls

- Facilities for student voting on logos and slogans etc

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Digital Divas Online Portal

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- We welcome questions, suggestions and contributions