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Digital Careers & Universities

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Issue

Misconceptions about Information & Communication Technology resulting in:

- Students' lack of interest in studying ICT, and STEM in general.
- Skills gap opening, youth unemployment, missed economic opportunities.

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Impact on Universities

- Quantity: Reduced student numbers have led to staff losses and in many cases the merging or closure of Faculties/Schools
- Quality: Entry level scores have been reduced
- Retention: % of students who drop out of their ICT studies

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How is Digital Careers different?

Start earlier

- We cater for students as young as age 8: School years 3-12

Engage the influencers

- Parents, Teachers & Career Advisors

Connect the value chain

- Primary & Secondary Schools, Universities, Industry

Connect the ecosystem

- ACARA, various associations, activity providers, education departments, ...

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Pre-Competitive Approach

Digital Careers takes a pre-competitive approach which aims to:

- Increase the enrolments in ICT studies
- Increase the quality and retention of students who enrol in ICT studies

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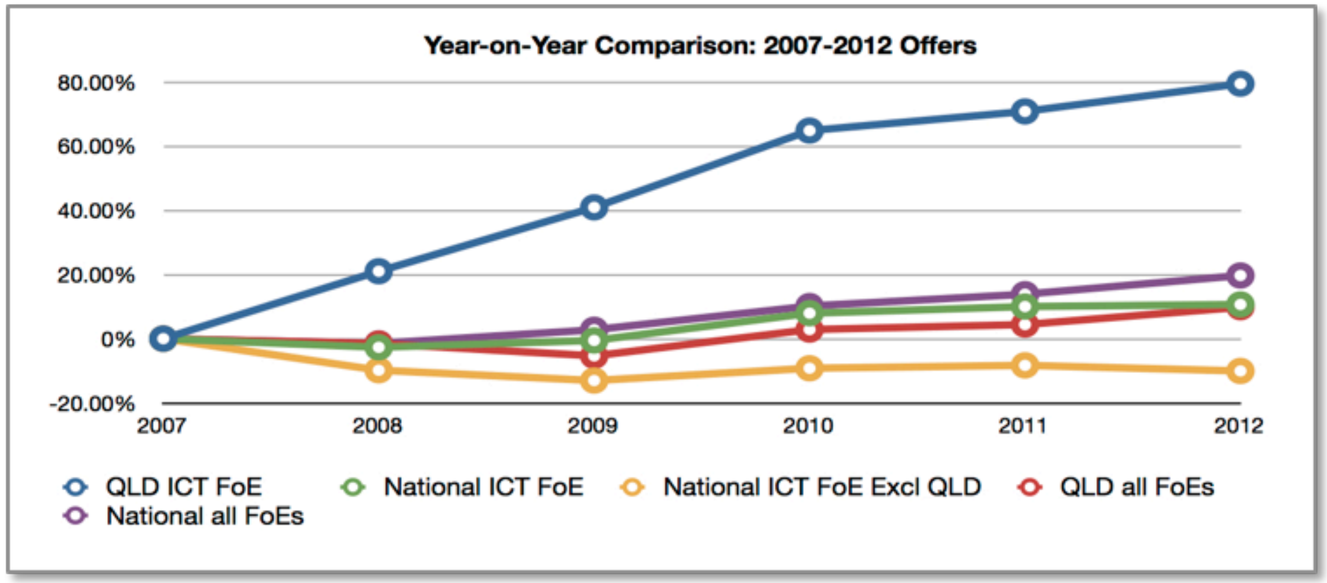
History and Origins

- Based on successful pilot in QLD, commencing in 2007 as Group X.
- Consortium of like-minded parties (Unis, Industry, Govt).
- Since then, the number of students commencing tertiary ICT studies in QLD has increased by 50%.



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About Digital Careers

4 year program, funded by the Australian Government, Department of Communications, state Governments, Universities, and Industry.

Purpose:

- Generate interest in digital technologies amongst school students.
- Increase the portion of student enrolment in ICT courses at universities and TAFE.
- Increase awareness of career diversity, opportunities and benefits of an ICT based study program/education.
- Raise the profile and reputation of the ICT industry and ICT careers.
- Provide education and training material and professional development for ICT educators.
- Improve the capability and confidence of school ICT teachers and catalyse the professionalisation of ICT teaching.

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Three Pillars

- Emotional & factual connectedness: Activities & Events for Students
- Teacher Engagement & Professional Development
- Promotion and diversity of the ICT industry

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Activities & Events for Students

Plan for 2014:

- Inform 114,000 students through career fairs.
- Involve & engage 33,000-38,000 students through hands-on activities
- Retain students along inform - involve - engage pathway.

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National Activities & Events

Year 12

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Year 3

Career Fairs

Website, Social Media, Classic Media

Big Day In

Gap 1

Club Kidpreneur

Bebras

Gap 2

Young ICT Explorers

Inform

Involve

Engage

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Teacher Engagement & Professional Development

We listen to the needs of the teachers…

- Educator Advisory Committees

We support teachers ...

- Programs for low SES and rural schools
- MOOC with University of Adelaide (Years 7-8)
- ICT in Schools: Strategic partnership with CSIRO
- Partnership with ACARA re. Network of Expertise
- Activity Map

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Promotion of ICT Industry

- Career Fairs
- Online and Social Media
- Conferences
- Collateral
- Profiling of Industries and the role ICT plays in them

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How we connect with Universities

Universities help shape and progress the program by:

- Providing strategic input: Steering/Advisory Committees
- Chairing some of our state committees
- Providing cash and in-kind resources
- Engaging in events & activities
- Participating in joint projects

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University Engagement Examples

- Connecting early with prospective students
  - UQ, UNSW, ANU, JCU, UTS, CSU, UOW, RMIT, UniSA, UoN host Young ICT Explorers or BDI events
  - Uni Volunteers attend Digital Careers booths at career fairs
- NSW, ACT steering committees have University chairs
- DC enriches a Uni's outreach activities. Great examples: ANU, QUT
- DC sponsors MOOC development with University of Adelaide
- Research opportunities: Student attitudes towards ICT (QUT), International ICT student assessment (Bebras) with Swinburne

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What's next ...

- Speak with our University partners about their experiences with us.
- Become a member of Digital Careers
- Engage in a national program, that adjusts to the needs of your state and University
- See your ICT student numbers grow

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Further Information

www.digitalcareers.edu.au (under development)

www.youngictexplorers.net.au

www.bebras.edu.au

www.acsfoundation.com.au/bdi/

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Backup

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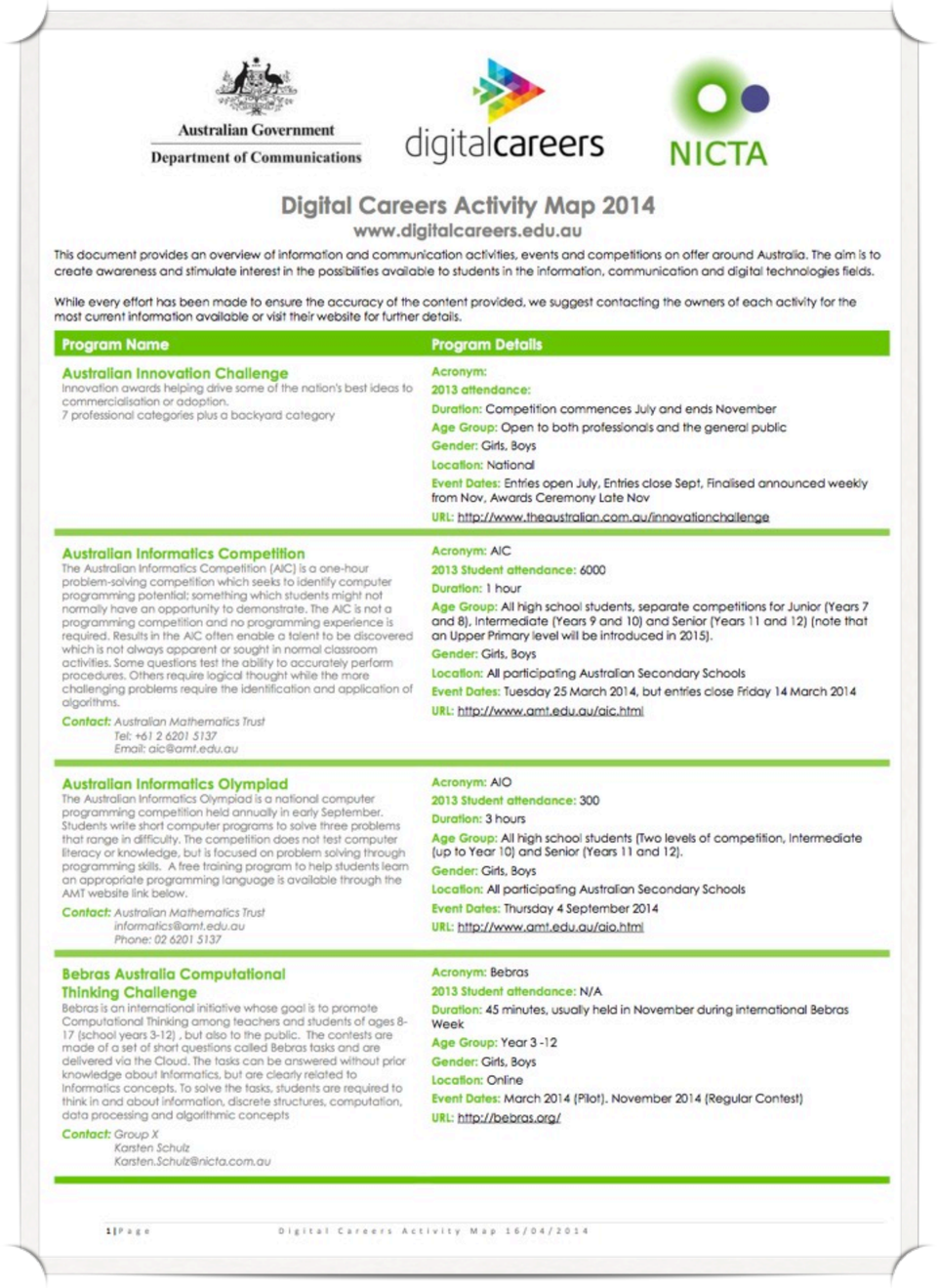

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Digital Careers Activity Map 2014

www.digitalcareers.edu.au

This document provides an overview of information and communication activities, events and competitions on offer around Australia. The aim is to create awareness and stimulate interest in the possibilities available to students in the information, communication and digital technologies fields.

While every effort has been made to ensure the accuracy of the content provided, we suggest contacting the owners of each activity for the most current information available or visit their website for further details.

Program Name	Program Details
Australian Innovation Challenge Innovation awards helping drive some of the nation's best ideas to commercialisation or adoption. 7 professional categories plus a backyard category	**Acronym:** **2013 attendance:** **Duration:** Competition commences July and ends November **Age Group:** Open to both professionals and the general public **Gender:** Girls, Boys **Location:** National **Event Dates:** Entries open July, Entries close Sept, Finalised announced weekly from Nov, Awards Ceremony Late Nov **URL:** http://www.theaustralian.com.au/innovationchallenge
Australian Informatics Competition The Australian Informatics Competition (AIC) is a one-hour problem-solving competition which seeks to identify computer programming potential; something which students might not normally have an opportunity to demonstrate. The AIC is not a programming competition and no programming experience is required. Results in the AIC often enable a talent to be discovered which is not always apparent or sought in normal classroom activities. Some questions test the ability to accurately perform procedures. Others require logical thought while the more challenging problems require the identification and application of algorithms. **Contact:** *Australian Mathematics Trust* *Tel: +61 2 6201 5137* *Email: aic@amt.edu.au*	**Acronym:** AIC **2013 Student attendance:** 6000 **Duration:** 1 hour **Age Group:** All high school students, separate competitions for Junior (Years 7 and 8), Intermediate (Years 9 and 10) and Senior (Years 11 and 12) (note that an Upper Primary level will be introduced in 2015). **Gender:** Girls, Boys **Location:** All participating Australian Secondary Schools **Event Dates:** Tuesday 25 March 2014, but entries close Friday 14 March 2014 **URL:** http://www.amt.edu.au/aic.html
Australian Informatics Olympiad The Australian Informatics Olympiad is a national computer programming competition held annually in early September. Students write short computer programs to solve three problems that range in difficulty. The competition does not test computer literacy or knowledge, but is focused on problem solving through programming skills. A free training program to help students learn an appropriate programming language is available through the AMT website link below. **Contact:** *Australian Mathematics Trust* *informatics@amt.edu.au* *Phone: 02 6201 5137*	**Acronym:** AIO **2013 Student attendance:** 300 **Duration:** 3 hours **Age Group:** All high school students (Two levels of competition, Intermediate (up to Year 10) and Senior (Years 11 and 12). **Gender:** Girls, Boys **Location:** All participating Australian Secondary Schools **Event Dates:** Thursday 4 September 2014 **URL:** http://www.amt.edu.au/aio.html
Bebras Australia Computational Thinking Challenge Bebras is an international initiative whose goal is to promote Computational Thinking among teachers and students of ages 8-17 (school years 3-12) , but also to the public. The contests are made of a set of short questions called Bebras tasks and are delivered via the Cloud. The tasks can be answered without prior knowledge about Informatics, but are clearly related to Informatics concepts. To solve the tasks, students are required to think in and about information, discrete structures, computation, data processing and algorithmic concepts **Contact:** *Group X* *Karsten Schulz* *Karsten.Schulz@nicta.com.au*	**Acronym:** Bebras **2013 Student attendance:** N/A **Duration:** 45 minutes, usually held in November during international Bebras Week **Age Group:** Year 3 -12 **Gender:** Girls, Boys **Location:** Online **Event Dates:** March 2014 (Pilot). November 2014 (Regular Contest) **URL:** http://bebras.org/

Activity Map

A directory of available ICT student activities in Australia

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Activity & Event Strategy

	Inform	Involve	Engage
level of immersion	low	medium	high
level of difficulty	low	low	medium
time commitment by student	minutes	hour/s	hours ...months
feel good factor	high	high	high

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