Topics Covered in this Presentation

1. About Bebras - Digital Technologies Curriculum
2. A Sample Task - Students’ perspective on the system
3. Getting organised
   1. Parental Consent Form
   2. Anonymous Student Participation
   3. Registering as School Coordinator
   4. Login Screen
   5. Downloading Documents
   6. Adding Students
   7. Retrieving Student Logins
4. Before the Test Day
5. On the Test Day
6. After the Test Day
7. Support
8. FAQs
9. Next steps
“I can do this!”

- Bebras is a challenge to promote Computational Thinking among primary and secondary students.
- The tasks can be answered without prior knowledge about digital technologies, but are clearly related to digital technology concepts.
- To solve the tasks, students are required to think in and about digital technologies, discrete structures, computation, data processing, and algorithmic concepts. Each Bebras task can both demonstrate an aspect of digital technologies and test the talent of the participant, regarding digital technologies.
- Since 2014, more than 40,000 Australian school children participated.
- Bebras is a challenge, not a competition. We aim for students to leave with a positive impression about Digital Technologies.
Bebras and the Australian Curriculum
Digital Technologies.

- Bebras is aligned with and supports the new Australian Curriculum: Digital Technologies.

- Bebras introduces many of the learning areas in the new digital technologies curriculum with a particular focus on computational thinking.
Bebras and the Australian Curriculum Digital Technologies.

<table>
<thead>
<tr>
<th>Digital Technologies: Sequence of content F-10</th>
<th>Strand: Processes and production skills</th>
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<tr>
<td><strong>Generating and designing</strong></td>
<td><strong>F-2</strong></td>
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<tr>
<td>- Design a user interface for a digital system (ACTDP019)</td>
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<tr>
<td>- Design, modify and follow simple algorithms involving sequences of steps, branching and iteration (ACTDP018)</td>
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<tr>
<td><strong>3-4</strong></td>
<td><strong>5-6</strong></td>
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<tr>
<td>- Design the user experience of a digital system by evaluating alternative designs against criteria including functionality, accessibility, usability and aesthetics (ACTDP020)</td>
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<tr>
<td>- Design algorithms represented diagrammatically and in English, and trace algorithms to predict output for a given input and to identify errors (ACTDP021)</td>
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<td><strong>7-8</strong></td>
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| Producing and implementing                   | **F-2**                                  |
| - Implement simple digital solutions as visual programs with algorithms involving branching (decisions) and user input (ACTDP011) |
| **3-4**                                       | **5-6**                                  |
| - Implement digital solutions as simple visual programs involving branching, iteration and user input (ACTDP022) |
| **7-8**                                       | **9-10 (Elective subject)**              |
| - Implement and modify programs with user interfaces involving branching, iteration and functions in a general-purpose programming language (ACTDP023) |
| - Implement modular programs, applying selected algorithms and data structures including using an object-oriented programming language (ACTDP041) |

| Evaluating                                    | **F-2**                                  |
| - Explain how people safely use common information systems to meet information, communication and recreation needs (ACTDP050) |
| **3-4**                                       | **5-6**                                  |
| - Explain how student solutions and existing information systems meet common, personal, school or community needs (ACTDP050) |
| **7-8**                                       | **9-10 (Elective subject)**              |
| - Evaluate critically how student solutions and existing information systems meet needs, are innovative, and take account of future risks and sustainability (ACTDP051) |
| - Provide opportunities for innovation and enterprise (ACTDP041) |

| Collaborating and managing                   | **F-2**                                  |
| - Create and organise ideas and information using information systems independently and with others, and share these with known people in safe online environments (ACTDP050) |
| **3-4**                                       | **5-6**                                  |
| - Plan, create and communicate ideas and information, including collaboratively, online, applying agreed ethical and technical protocols (ACTDP050) |
| **7-8**                                       | **9-10 (Elective subject)**              |
| - Plan and manage projects that create and communicate ideas and information collaboratively online, taking safety and social context into account (ACTDP050) |
| - Create interactive solutions for sharing ideas and information online, taking into account safety, social context and legal responsibilities (ACTDP048) |
| - Plan and manage projects using an iterative and collaborative approach, identifying risks and considering safety and sustainability (ACTDP044) |
Bebras Overview

• Bebras can be delivered within one school hour (45-60 min)
• The children can participate individually or in small groups (up to 4).
• Levels: from Year 3-12, participating in 5 categories: Years 3+4, 5+6, 7+8, 9+10, 11+12
• Collaboration and sharing during the challenge are encouraged! Bebras is **not** NAPLAN :-)
• There is no need to transport the children off campus.
• Bebras is free. $0.
• No prior computing/ICT knowledge is required.
Available Resources

• Website: www.bebras.edu.au/info
• Coordinators’ Handbook
• Parental Consent Form
• Students’ Handbook
• Sample Tasks
• Solution Guides
• Challenge Server: challenge.bebras.edu.au
• Webinars
• Activity Map
Benefits for Teachers

• Bebras is a resource that is available for the entire year

• Phase I: 60/45 min challenge for students

• Phase II: After grading, students can log into the server to review their answers and re-take the challenge, receiving immediate feedback on their answers.

• Phase III: Analytics

  • Teachers can download detailed information on how their students performed in each task.

  • This data can be used in the classroom to teach students data analytics.
Team Size

- Maximum of four students per team
- Recommendation is a maximum of three students/team
- Teachers, please consider team dynamics
At the LIFO icecream parlor the scoops of icecream are stacked on your cone in the exact order in which you ask for them.

What do you have to say in order to get the icecream shown in the picture?
I would like to get an icecream with ...

- Chocolate, Smurf and Strawberry!
- Chocolate, Strawberry and Smurf!
- Strawberry, Smurf and Chocolate!
- Strawberry, Chocolate and Smurf!
Sample Task
Year 11+12, type C (hard)

Three friends Anne, Bernie and Clara live in a city with an underground train system. The map of the system below shows the stations and connections between the stations. The map also indicates how many minutes each connection takes.

Anne lives next to Ashborn station, Bernie's nearest station is Best, and Clara's is Corner. They wish to select a station for a meeting. None of the friends should take more than 15 minutes of travel to reach the meeting point.

Which stations qualify as possible meeting points? Click on all of the stations that would qualify as suitable meeting points.
# Bebras Australia 2016

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Answered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dream Dress</td>
<td>A</td>
<td>Not answered</td>
</tr>
<tr>
<td>Mushrooms</td>
<td>A</td>
<td>Not answered</td>
</tr>
<tr>
<td>Crane Operating</td>
<td>A</td>
<td>Not answered</td>
</tr>
<tr>
<td>Bracelet</td>
<td>A</td>
<td>Not answered</td>
</tr>
<tr>
<td>Birthday Balloons</td>
<td>A</td>
<td>Not answered</td>
</tr>
<tr>
<td>Animation</td>
<td>B</td>
<td>Not answered</td>
</tr>
<tr>
<td>Walnut Animals</td>
<td>B</td>
<td>Not answered</td>
</tr>
<tr>
<td>Setting the Table</td>
<td>B</td>
<td>Not answered</td>
</tr>
<tr>
<td>Geocaching</td>
<td>B</td>
<td>Not answered</td>
</tr>
<tr>
<td>Biber-Hotel</td>
<td>B</td>
<td>Not answered</td>
</tr>
<tr>
<td>Beaver Gates</td>
<td>C</td>
<td>Not answered</td>
</tr>
<tr>
<td>Trains</td>
<td>C</td>
<td>Not answered</td>
</tr>
<tr>
<td>Fair share</td>
<td>C</td>
<td>Not answered</td>
</tr>
<tr>
<td>Throw the Dice</td>
<td>C</td>
<td>Not answered</td>
</tr>
<tr>
<td>Drawing Patterns</td>
<td>C</td>
<td>Not answered</td>
</tr>
</tbody>
</table>
Parental Consent Form

- Is only required if the students participate under their real name.
- Please let us know if you need the form in another format than PDF
- Scanned PDFs can be sent to digitalcareers@csiro.au
Anonymous Student Participation

It is possible for Students to participate under a pseudonym, which teachers would need to know about when they upload their students' details into the challenge server. The only reason we collect a student's name is to generate a personalised certificate of participation. If teachers want to upload a student by pseudonym, but still want that student to receive a personalised certificate of participation, then we can email teachers the certificate template to enable them to generate the certificate themselves.
Registering as School Coordinator

- Point your browser to http://challenge.bebras.edu.au/admin/
- Click on Register as coordinator
- Bebras will need to approve your registration. Give us a day to do this.
Login Screen

- Point your browser to http://challenge.bebras.edu.au/admin/
- Log in with the username and password you generated when you registered as a coordinator
1. All relevant documents can now be downloaded from within the Bebras Challenge Server.


3. Click on Documents
Adding Students

- Student accounts can be generated manually, or through a batch process
- The batch process requires either an EXCEL file, or a CSV file
- Both processes are similar and described in detail on the following two pages
- Ensure that your data format matches exactly the format the Bebras server requires. The format is described on the following slides.
Adding Students, EXCEL

- Prepare a EXCEL file with 5 columns. Make sure to include:
  - Class (can be any text/numerical value)
  - Grade (only numerical value allowed)
  - Firstname (can be any text/numerical value)
  - Lastname (can be any text/numerical value)
  - Gender (only the words ‘male’ or ‘female’ are allowed).
- Save this file as student-import.xls

Example only
Adding Students, CSV

- Prepare a plain ASCII text file as a comma-separated-file according to the format shown on the right. Make sure to include:
  - Class (can be any text/numerical value)
  - Grade (only numerical value allowed)
  - Firstname (can be any text/numerical value)
  - Lastname (can be any text/numerical value)
  - Gender (only male or female allowed)
  - The file must not contain spaces
  - Save this file as student-import.txt

Example only

3L,3,first-name,name,male
4R,4,first-name,name,female
5L,5,first-name,name,male
6R,6,first-name,name,female
7L,7,first-name,name,male
8R,8,first-name,name,female
9L,9,first-name,name,male
10R,10,first-name,name,female
11L,11,first-name,name,male
12R,12,first-name,name,female
Adding Students, Step 2

1. Click on Import Files
2. Click on Upload
Adding Students, Step 3

1. Select the checkboxes to match the fields in your data file.
   1. Class
   2. Grade
   3. Firstname
   4. Lastname
   5. Gender

2. Click on Browse and select the previously-created student-import file.
Adding Students, Step 4

1. The X is to remove the file. It does not mean there is a problem.
2. Click on Save.
Adding Students, Step 5

1. Click on Import Now

2. Do Not click on Upload unless you want to upload another CSV/XLS
Adding Students, Step 6

1. Check all is in order:
   • Column names match the information in the table
   • You have not checked the headers checkbox

2. Then click Import
Adding Students, Step 7

1. If everything went well, the system will respond with ‘Your File has been imported’

2. Click on Students to verify if all student accounts have been generated
Adding Students, Step 8

1. Check if the import was successful. If not, either manually correct data errors or repeat this process. Under ‘Import Files’, you can delete all of the student accounts and start over.
Adding Students, Handy Hints

1. You can set student usernames or passwords yourself by adding them to the CSV/XLS import file. The system will re-use them and not auto-generate.

2. This can be useful if your students...
   1. … are young and you want them to use an easy to remember password
   2. … have a school id that you want to re-use as a login to the Bebras server

3. If you do this, remember to place the usernames/passwords in the correct column of your import file (see slide ‘Adding Students, Step 4’) and tick the corresponding checkboxes. Otherwise the import may fail.
Retrieving Student Logins, Step 1

1. Click on Export to Excel.
2. A file will be downloaded to your computer which contains the information from the CSV/XLS file, plus usernames and passwords that the system has generated for each student.
Retrieving Student Logins, Step 2

1. Open the Excel file
2. It should look similar to the example on the right
Before the Test Day

1. Make sure that student accounts can login to and are not blocked from using these websites:
   http://challenge.bebras.edu.au

2. Check that accessing this URL will show the image of Bruce the Beaver:
   http://static.beverwedstrijd.nl/6/2/c/bruce_beaver_alpha_small.png

3. Ensure your students have a valid parental consent form
On the Test Day

1. Make sure students are at a computer and know their username and password. Competitors can have a pencil, paper and calculator should they wish.

2. IMPORTANT: Make sure no paper with notes of any sort leaves the challenge room.

3. Ask the students to point their browser here: http://challenge.bebras.edu.au

4. Check they understand the login and how to get to the questions and then start them off.

5. Students can work in groups of up to 4. One child logs in. The system will then ask if other students want to add their logins.

6. The time allowed is 60 minutes for year 3+4 and 45 minutes for the other groups. The system will inform the student when the timer is about to start.
After the Test Day

1. On the weekend after the Bebras Weeks, we will grade the student responses.

2. On Monday, you can log in and download the student results and share them with your students.

3. Student accounts will remain active. We will switch the system into review mode, so students can check their answers individually (feedback loop).

4. Feel free to continue using the system in class discussions for the remainder of the year. You can always create new accounts.
Certificates

1. Specially designed Certificates of Participation will be generated for each student who completed the challenge.

2. These will include the student’s name (or pseudonym), score, and achievement level.

3. The system provides a certificate factory for each supervisor (see next page).

4. Please celebrate the students’ achievements.
 Generating Certificates

2. Click on Export Files
3. Click on Testimonials
Making your Own Certificates

Step 1

If you have students who participated under a pseudonym, you can still produce personalised certificates.

Bebras produces a XLS file that you can use to mail merge against a certificate template

1. Click on Export Files
2. Click on Testimonials DIY
Making your Own Certificates
Step 2

To download the certificate template:

3. Click on Documents
4. Click on Export Files
5. Click on ‘Bebras Certificate of Participation Template 2016.docx’
6. In MS Word, mail merge the Template against the XLS file
Support

1. For urgent matters, call Katie Rowe on 0466 416 881

2. If not urgent, send an email to digitalcareers@csiro.au
FAQs

Q: I was wondering, on the document we provide for upload to get the student information you ask for: Class, Grade, Firstname, Lastname, Gender. What do you mean by class? The example provided has alternating L's and R's so I'm a little confused as to what you would like.

A: Some schools have Left and Right classes, or a, b, c, d, e, f, g, ... classes. If you don't have such thing at your school, simply put the grade in this field.

Q: Education QLD blocks Dropbox access

A: The documents are now also available from Tink’s place and from within the Bebras Challenge Server.
Q: Is there a cut-off date for the registration of students?

A: There is no cut-off date. Students can be registered anytime prior to the end of the Bebras Challenge weeks.

Q: I forgot my username or password.

A: Use the password reset facility or email digitalcareers@csiro.au
Q: We are a Special Needs school and so we are considering doing the challenge in small
groups which may take longer than the 60 mins. Is there a time limit on completing a task/
challenge?

A: The system keeps track of the time that is available to students. We can accommodate
your school by changing the time settings on the server. Since this would affect all students
taking the challenge, we would need to do this outside of the regular Bebras weeks.

Q: I was wondering if students had to complete the challenges all in one sitting or can they log
in, do a few and then resist the site later to complete all the challenges?

A: Once a student commence the challenge, the system timer starts. At present, Bebras
does not have a pause button, so a student has to complete the challenge all in one sitting.
What else can I do with Bebras?

Here are a couple of ideas we collected from teachers:

- High-performing students: Let students re-take the challenge, but in a higher age category to stretch them a bit.

- Low-performing students: Can re-take the challenge in a lower age category to give them confidence.

- Refer to Bebras tasks in class discussions, and as anchor points in your ICT teaching efforts

- Solve some of the Bebras tasks with real code.

- Use the Bebras data of your school to introduce students to data analytics. Analyse the data along age, gender, individual tasks, ... Since students have participated in Bebras, they can relate to the data in a more personal way.

- Remember: You can always generate more student accounts if you need to.
What’s Next?

• Bebras can be the beginning of the students’ exciting ICT journey.

• There are 30+ ICT-related activities available to your students.

• An activity map can be downloaded from http://digitalcareers.edu.au/students/
Further Information

• www.digitalcareers.edu.au
• www.bebras.edu.au
Bebras Australia Computational Thinking Challenge

2016 Coordinators’ Instructions

www.bebras.edu.au

Australian Government