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Robot Thought venue 1: Aberystwyth/NMSI

Successes, challenges and recommendations

This document summarises the successes and challenges in developing, delivering and evaluating the *Roborama* show, from the perspectives of the project partners. The show was developed following collaboration between the space robotics researchers at the University of Wales, Aberystwyth, and the Science Museum in London, as part of the *Robot Thought* project funded by EPSRC and coordinated by the Graphic Science Unit at UWE, Bristol. The results from the audience evaluation are provided in a separate document.

Successes

The first set of performances had a number of successes, which are summarised below.

The shows

- 18 shows were performed, reaching approximately 1500 people.
- The audience response to the performances was positive.

Project structure and coordination

- The project coordination and input by different members of the Graphic Science team was found to be excellent.
- The experience from the project pilot paid off – the preparation sessions at Aberystwyth and Bristol were found to be helpful by all.
- Both the Science Museum staff and the robotics researchers would be keen to work on a similar project in the future.

Science Museum team

- The staff at the Science Museum welcomed the opportunity to include cutting-edge research in their programmes.
- A complementary activity, which involved making a robot mask, was developed by the Science Museum team. The activity ran 10 times over 5 days during the half term. Approximately 665 people attended, adding significant value to the project.

Robotics researchers

- The robotics research group at Aberystwyth felt the project was a success. This is the largest-scale public engagement activity they have been involved in, and they felt that learning what is involved in such projects was a valuable outcome.
- Involvement in *Robot Thought* generated local publicity for the Aberystwyth group, as well as raising the profile of the research group and the department within the University.

Reviewing and evaluation

- The discussion day on 1 June was a good opportunity for feedback from project partners and other members of the network.
- A large number of short questionnaires were returned (over 200), while a smaller number of long questionnaires were returned (28). The instruments may be adapted following review of the information they yielded.

Challenges

Although, overall, this stage of the project was felt to be a success, there were some challenges along the way.

Development of the show at the Science Museum

- The project was 'inherited' by a team at the Science Museum that was itself undergoing a number of changes.
- The prescribed content was a new way of working for the presenters, and consequently the development took longer than anticipated, leaving too little time for rehearsals. The presenters were also keen to experiment with the show's format, changing from one presenter to two. This also meant that development took longer than usual.
- The presenters were not able to use the theatre space for rehearsals.
- While the audience feedback was positive, the presenters felt that the show was not up to their usual high standard for the first few days of performances.

The science of robotics

- The presenters were all from non-scientific backgrounds. Some of the subtleties involved in space robotics research were difficult to communicate, however the researchers felt that the presenters did a good job.
- The robot that the researchers provided was a research robot, so was not 100% bombproof. More communication between the presenters and the roboticists would have helped overcome some of the problems with its operation.

Communication

- Lots of information was provided at the initial briefing event. While this was seen as a positive by the presenter who attended, the roboticists felt that the large amount of information provided may have meant that decisions about the show's content took longer to make.
- There was some difficulty with organising the delivery of one of the robots; this meant that some of the early shows did not include a real robot.
- The presenters agreed that space robotics was a complicated topic, but did not want to bother the roboticists with lots of questions.
- The roboticists would have been happy to have been more involved.

- Aberystwyth and London are far apart so the roboticists had not seen the performance space before the day of the show, and it was not possible to arrange extra meetings or attendance at rehearsals.

Performances

- Recruiting the right audience at the Science Museum was a challenge that is likely to present itself at all of the venues. Although the show was advertised as suitable for children aged 5+, a large number of children younger than this attended. Some parents of very young children left the show mid-performance, which was disruptive.
- More effort could have been made to integrate Dave Barnes' section of the presentation into the performance.

Recommendations

1. **The timeline for key decisions should be discussed early on** with each research group/science centre pairing. The presenters and the researchers felt that making some decisions about the show content (in terms of which research and robots would be included) after the briefing meeting would have meant the presenters got even more out of the training day. More focus from the roboticists involved in the initial briefing event would also have helped this.
2. Linked to the above recommendation, the presenters felt that having **Ben Johnson's input earlier** on would have allowed them to further refine the show.
3. **More frequent communication between roboticists and presenters** is recommended for future events; this would have helped the Science Museum presenters with some of the technical issues related to operating the panicbot.
4. Both the presenters and the roboticists suggested **an extra meeting between the presenter training and the performances**. This may be easier for future partnerships without such a large distance between the partners! It was also suggested that this meeting could coincide with a pilot performance of the show.
5. **Utilising the whole network** (where appropriate), rather than just the partners involved in each set of performances would be beneficial. An example arose when discussing robot videos to include in the show: Barbara Webb has a collection of interesting robot video clips that will now be available to the whole network. There may be similar situations in the future where asking the whole network for input could be helpful.