

## **Robot Thought venue 4: University of Edinburgh / Edinburgh International Science Festival**

### **Successes, challenges and recommendations**

This document summarises the successes and challenges in developing, delivering and evaluating the *Robot Thought* show and related *Meet the Scientist* activities from the perspectives of the project partners. The show was developed following collaboration between the University of Edinburgh and the University of the West of England (UWE). Two presenters were recruited from outside these institutions to deliver the show. UWE was responsible for writing the script and also provided training and support to the presenters in developing the show. The results from the audience evaluation are provided in a separate document.

Interviews were conducted with four members of the robotics research lab, including the head of the research group; both presenters and a representative from UWE.

### **Successes**

Interviewees identified a number of successes associated with the project:

#### **The activities**

- Overall, around 4000 festival visitors participated in activities.
- Usually the University of Edinburgh take some robots to the science festival. *Robot Thought* added considerable value to this by supporting development of the show.
- The show was generally well-received by audiences, although members of the project team (and some audience members) felt that it lacked a strong conclusion.
- The show included lots of examples of real robots – this worked very well.
- The roboticists had lots of input into the script, which meant that tricky explanations (e.g. the link between simple instructions and complex behaviour) could be explained in an accurate yet accessible way.
- The roboticists' role was different to that for previous shows. Instead of being included as 'talking heads' to deliver part of the show, the roboticists offered technical support operating the robots throughout. The presenters also referred to them during the show and highlighted the fact that they would be available to answer questions after the show.
- The combination of the show and *Meet the Scientist* activity was very successful. Both activities served to publicise each other and the informal discussions allowed questions raised by the show to be extended and discussed by children and adults.
- The linked Walking With Robots activity where stall visitors built their own robots also worked well as it was something visitors could really get involved in.
- Elements from the show are now being used in other outreach work that the roboticists are involved in.

#### **Project structure and coordination**

- From the roboticists' perspective, it was really useful to have UWE coordinate the project and arrange lots of the details. It meant there was much less strain on the researchers' time.

- Having a script as a starting point worked well to stimulate discussion. However, there were also some challenges related to the script (see later section).
- The presenters highly valued the rehearsal/development days.
- The mix of experience in robotics and public engagement that the project partners brought to the table made for a stimulating working environment.

### Impacts on project partners

- The presenters felt they had gained confidence and experience in presentation skills and learned about how to develop an effective show.
- The robotics PhD students said they had learned more about public engagement and developed their confidence in this area. One said he'd even be prepared to present the show next time!

### Challenges

The interviewees identified some challenges:

- This stage was different to previous stages because there was no science centre partner. This meant that two presenters were recruited specifically to deliver the show during the festival. The aim was to recruit presenters with little or no prior experience. This meant that they gained a great deal from their involvement in the project.
- However, combined with the fact that there was no opportunity to rehearse in front of a live audience (as there would normally be at a science centre), it meant that the performance was less polished than it could have been.
- The script wasn't ready in time which meant half a day of rehearsal time was 'lost'. The presenters and UWE representative agreed that with hindsight, it was not a big issue because the show was still being developed at the time. However, the presenters said that relying on the script had helped with their confidence, so the fact that it was not ready led to some anxiety at the time.
- Having a clearer idea of the show content earlier on would also have helped the roboticists, who needed to programme the robots to perform tasks during the show.
- Running presenter training with just two presenters was more difficult than with a larger group. In a larger group participants can learn from each other as well as the trainer and it helps to see different people's presenting styles.
- Programming the robots to take part in the show was time-consuming.
- In addition to the above, there was some confusion about what was required for *Robot Thought* and *Walking With Robots*. The WWR enquiry had come later and through the school rather than the *Robot Thought* contact. It was assumed that the request was for the same activity, and it only became clear that this wasn't the case a few weeks before the festival.
- Having a short run of shows was a success and a challenge. The benefit was that the researchers could give it their full attention over the short period. The challenge was that just as the presenters had improved the show the run came to an end.
- The possibility of having researchers involved in shows every weekend over several months was discussed during the interviews. This would not have been possible if two researchers were involved in each show (like at the festival). However, it would have been feasible for the three PhD students to take it in turns, one at a time, if they were paid.



## Recommendations

1. **Audiences love real robots, so include as many as possible!** This was one of the greatest strengths of the Edinburgh shows.
2. **Ensure the show has a clear message and strong conclusion.** The lack of these was the biggest weakness with the Edinburgh shows.
3. **If possible, include a *meet the scientist*-type activity after every show.** This allows the questions raised during the show to be extended and discussed at a range of levels. Introducing the roboticists during the show (and having them on hand to operate the robots) was a good way to involve the roboticists without having to include an awkward, under-rehearsed section. Audiences were later able to question the researchers for as long as they liked.
4. **Capture and share successful demonstrations.** A big success from this leg is the way that some of the demos have already been used in other public engagement work undertaken by the University of Edinburgh. It would be useful to capture demos or activities that work particularly well and share them with other researchers. The Walking With Robots network would be a good mechanism for this sharing.