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Learning in Game Jams: A Case Study of the GLASS Summer School

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Authors: Charlene Jennett[1], Laure Kloetzer[2], Jesse Himmelstein[3], Alexandre Vaugoux[4], Ioanna Iacovides[1], Anna L. Cox[1]

[1] UCL Interaction Centre, University College London, UK
[2] University of Neuchâtel, Switzerland
[3] Centre de Recherche Interdisciplinaire (CRI), Paris, France
[4] Université Paris Descartes, Paris, France

50 word truncated abstract:
Game jams provide exciting opportunities for education and research. In this session we describe the GLASS Summer School, sharing videos where students talk about their experiences, and sharing results from our learning survey. We discuss questions such as what are optimal conditions for game jams? How can we measure learning?

Full abstract:
Game jams, hackathons and similar group game creation events have become increasingly popular over the past decade (Fowler et al., 2015). These competitive events are run in a variety of formats, have differing time constraints, and provide new and exciting opportunities for education and research. Coordinators of game jams have shared "lessons learned" on how to make these events into amazing collaborative opportunities (Preston et al., 2012). Recent research has explored how game jam participants work together in teams and the different group forming processes that affect game jams of different sizes (Pirker & Voll, 2015). However, we still know very little about what participants actually learn by taking part in these events, and how to measure their learning.

In this session we present our case study of the GLASS Summer School. In 2015, the CRI Game Lab with the help of the Citizen Cyber Lab and the Gamelier association opened their first summer school program in Paris, where 15 students were selected from all over Europe to work together to create scientific games. The objectives were two-fold: to train students to work interdisciplinary projects with teammates of different backgrounds; and to create games that can be used for scientific education or research. They wanted to explore new methods to create scientific games by mixing students from the worlds of game development and scientific research.

About two-thirds of the students came from game creation backgrounds, with a balance between graphic design, programming, and game design experience. The remaining third had various scientific backgrounds. The entire program was run over 9 weeks. The first two weeks were dedicated to ice-breakers, lectures, and workshops on scientific games and related concepts. The following two weeks were organized as two week-long game jams, in which the students were on different teams and could experiments with various ideas. Then their principal project began: to develop a 4-week scientific game for which they could rely on a number of mentors in various fields of scientific research. The ninth and final week was reserved for showcasing and promoting their game, including at the Cité des Sciences, the largest science museum in Europe.

To explore learning in the GLASS Summer School, we developed a pre- and post- learning survey, which we asked participants to fill in at the start of the summer school and at the end of the summer school. In the survey participants rated 29 skills on a 5 point scale, where 1 = no experience and 5 = fully skilled. The skills covered 4 main categories: organization, collaboration, game design, and science. Our results revealed that participants rated themselves significantly higher at the end of the

summer school for 4 skills: collaboration with scientists (increased from "a little experience" to "some experience"), knowledge of game platforms and technologies (increased from "some experience" to "almost fully skilled"), game testing (increased from "some experience" to "almost fully skilled"), and knowledge of science (increased from "a little experience" to "some experience"). This work provides an important first step in quantifying the learning that occurs in a game jam. In future work, we would like to be able to adapt our survey to game jams that have different formats (e.g. different time scales, different sized groups), to explore how different game jam structures impact participants' learning.

At the same time however, we know that our survey is limited because it relies on participants self-rating their skills. What if participants have an inaccurate perception of their own learning? In previous work we have used observation, questionnaires, post-play interviews and follow-up email questions to evaluate the outputs of game competitions in terms of how they impact on players (Iacovides & Cox, 2015). Yet it is less clear how to assess learning with respect to taking part in the competition process.

We envision this session would be interesting for anyone who is interested in exploring and discussing methods to evaluate learning experiences in the context of game jams, hackathons, and similar group co-creation events. At the end of our presentation, we will invite attendees to join us in discussing interesting questions such as: What kinds of activities worked well to engage people and provide opportunities for learning? What are the pros and cons of different evaluation approaches to measure learning in game jams? In addition to gaining useful feedback, we hope to potentially meet new collaborators who may be interested in using our learning survey at their game jam events.

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