Foreword to the 8th International Workshop on Games and Software Engineering (GAS 2024)

Emerging Advanced Technologies for Game Engineering

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1 INTRODUCTION

The evolving expectations within gaming communities drive ongoing research and development efforts to devise innovative methods for constructing intricate gameful systems. These methods incorporate cutting-edge technologies like AI, AR/VR, and biometrics, to meet the needs of gaming communities. Gameful systems encompass three main categories: **entertainment games**, which offers captivating user experiences aimed at immersing and retaining players; **serious games**, which combines the entertainment aspect of gaming with specific goals in domains such as education, training, and healthcare; and **gamified applications**, which augments non-entertainment applications, like learning management systems, by integrating game elements.

The 8th International Workshop on Games and Software Engineering (GAS 2024), co-located with ICSE 2024, is an annual event that brings together interdisciplinary researchers and practitioners to explore issues that crosscut the software engineering and game development communities. The workshop website is https://sites.google.com/view/gas-2024.

2 SELECTED PAPERS

Eight papers were accepted among the submissions to the workshop, after review by at least three members of the program committee. The papers are:

- Super Mario in the Pernicious Kingdoms: Classifying glitches in old games - Llewellyn Forward (University of Bristol), Io Limmer (University of Bristol), Joseph Hallett (University of Bristol) and Dan Page (University of Bristol)
- Improving Bug Reproduction through Game Engine State Analysis - Carlos Pinto (École de technologie supérieure) and Fabio Petrillo (École de technologie supérieure)
- A Behavior-driven Development and Reinforcement Learning approach for videogame automated testing - Vincent Mastain (CY Tech) and Fabio Petrillo (École de technologie supérieure)
- How to Measure Game Testing: a Survey of Coverage Metrics - Riccardo Coppola (Politecnico di Torino), Tommaso Fulcini (Politecnico di Torino), Serenella Manzi (Politecnico di Torino) and Francesco Strada (Politecnico di Torino)
- Visual Scripting in Unity: A Comparative Analysis of Existing Frameworks - Kathleen Strodick (HSHL) and Tim Schattkowsky (HSHL)
- Towards Understanding the Energy Consumption of Virtual Reality Applications in Gaming, Education, and Entertainment - Jyothsna Priya Kattakinda (Vrije Universiteit Amsterdam), Sachin Dhananjaya (Vrije Universiteit Amsterdam), Samuel Mojžiš (Vrije Universiteit Amsterdam), Amine Nadif (Vrije Universiteit Amsterdam), Mattheus Hanna (Vrije Universiteit Amsterdam), Radu Apsan (Vrije Universiteit Amsterdam) and Ivano Malavolta (Vrije Universiteit Amsterdam)
- Handling Interfaces for the Procedural Generation of Complete Buildings - Damian Kutzias (Julius-Maximilians-Universität Würzburg) and Sebastian von Mammen (Julius-Maximilians-Universität Würzburg)
- From Boring to Boarding: Transforming Refactoring Education with Game-Based Learning - Wajdi Aljedaani (Oakland University), Anwar Ghammam (Oakland University), Mohamed Wiem Mkaouer (Rochester Institute of Technology) and Marouane Kessentini (University Of Michigan-Flint)

3 WELCOME MESSAGE

Welcome to the 8th International Workshop on Games and Software Engineering (GAS 2024), held in conjunction with the 46th IEEE/ACM International Conference on Software Engineering (ICSE 2024). GAS is an annual workshop that brings together researchers and practitioners who are keen on exchanging ideas and progressing techniques in the intersection of game engineering and software engineering.

GAS explores how advanced technologies can be used to benefit the engineering of gameful systems, including entertainment games, serious games, and gamified applications. The goal of this one-day workshop is to bring together the greater community of software engineers and game engineers to encourage discussions from an interdisciplinary perspective, on the emerging research challenges around game and software engineering. The accepted workshop papers will be presented in three sessions themed around "Automation", "Testing and SQA", and "Specifications and QOS". In addition to these, the workshop programme will include a panel and two keynotes on the relevant topics.

We express our sincere gratitude to the authors, presenters, keynote speakers, panelists, and participants, along with the Program Committee members, the Workshop Chairs of ICSE 2024, and the entire organizational team of ICSE 2024.

– Joan Arnedo-Moreno, Kendra M.L. Cooper, Thorsten Händler, Dayi Lin

4 ORGANIZING COMMITTEE

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