

Preserving and Emulating Australian Made Videogames of the 1990s

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INTRODUCTION

This presentation reflects on our experience disk imaging and emulating a selection of Australian videogames in the “Play It Again: Preserving Australian video game history of the 1990s” project. This three-year project was funded by the Australian Research Council as a Linkage Project. The project is a collaboration with two Partner Organisations, ACMI (the Australian Centre for the Moving Image) and AARNet (Australia’s Academic and Research Network). In the project, we have sought to document, preserve, and exhibit the history of Australian made videogames of the 1990s. The preservation aspect of the project has two major parts. The first part is to create digital images from the physical media carrying the game software. The second part is using Emulation-as-a-Service Infrastructure (EaaS) and other open-source emulators to make the games playable again. In this presentation, we discuss successes, difficulties, and limitations we have encountered in preserving and emulating the curated selection of 50 game titles and the implications for access and exhibition.

The project has played a significant role in testing and developing the potential of a local infrastructure, The Australian Emulation Network (Swalwell.2022). Among other things, the implementation of an Australian EaaS makes it possible to share configured environments of playable software with our partner, ACMI, and to make

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games playable in a browser on the open web (rights permitting) or in a museum intranet setting (Rechert et al. 2017). There are however currently some limitations to the EaaS platform in emulating videogames. In this presentation we will examine some of these issues including the difficulties that software preservationist Dr Cynde Moya encountered emulating driving games. Running into the same problem PC gamers faced back then as each game has different requirements for the configuration and performance of the PC, particularly the requirements for sound cards and graphics cards, which now also require their own emulators.

In conclusion we will reflect on the use of EaaS by galleries and researchers and how the preservation journey can deepen our historical understanding of these games

BIO

Dr Helen Stuckey. Helen Stuckey is a Senior Lecturer in Bachelor of Design (Games) in the School of Design, RMIT University, Melbourne, Australia. She was the inaugural Games Curator at the Australian Centre for the Moving Image (2004-2009). Her research addresses game history and the curation, collection and preservation of videogames and media arts. She is currently a CI on the following Australian Research Council funded projects: LP180100104: Play It Again: Preserving Australian videogame history of the 1990s; LP180100307: Archiving Australian Media Arts: Towards a method and national collection; LE220100057: The Australian Emulation Network: Born Digital Cultural Collections Access and DP230102727: Artistic Practice in Australian Videogame Development

Dr Cynde Moya Postdoctoral Fellow, Swinburne University of Technology, Melbourne. Dr Cynde Moya is leading the training for the ARC LIEF funded project, The Australian Emulation Network: Accessing Born Digital Cultural Collections. This project deploys the shared resource Australian Emulation-as-a-Service Infrastructure. Cynde directs the Digital Heritage Lab in the Centre for Transformative Media Technologies at Swinburne University of Technology. The Lab is a collection of functioning vintage computer hardware, software, and facilities to image obsolete computer media. She is active in the international software preservation community, presenting widely, and currently serves on the Coordinating Committee of the Software Preservation Network.

Prof. Melanie Swalwell. Professor of Digital Media Heritage, Swinburne University, Melbourne. Prof. Melanie Swalwell's research focuses on the creation, use, preservation, and legacy of complex digital artefacts such as videogames and media artworks. Author of *Homebrew Gaming and the Beginnings of Vernacular Digitality* (MIT Press, 2021), editor of *Game History and the Local* (Palgrave, 2021), and co-editor of *Fans and Videogames: Histories, Fandom, Archives* (Routledge, 2017) and *The Pleasures of Computer Gaming: Essays on Cultural History, Theory and Aesthetics* (McFarland, 2008), Melanie has curated exhibitions and datasets, authored interactive essays, collected popular memories, and organised the preservation of digital artefacts.

Dr Denise de Vries, Research Associate, Swinburne University. Dr Denise de Vries' research focuses on developing forensic methods for recovering digital objects from obsolete media and to better capture the requirements for executing obsolete software in emulated environments. She was a CI on the ARCH Linkage grant, *Play It Again Creating a Playable History of Australasian Digital Games for Industry, Community and Research Purposes*, ARC Linkage, 2012-14 and is currently a CI on *Play It Again: Preserving Australian videogame history of the 1990s and Archiving Australian Media Arts: Towards a method and national collection*. Denise is on the

technology taskforce of UNESCO PERSIST and was awarded a Digital Preservation Coalition Fellowship Award in 2022

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