A Renewable Artgames Residency: exploring sustainable practices for art game design

Cindy Poremba
OCAD University
Toronto, ON, Canada
cporemba@ocadu.ca

Kara Stone
Alberta University of the Arts
Calgary, AB, Canada
kara.stone@auarts.ca

Keywords

artgames, sustainability, art residency, environment, game making, climate action

EXTENDED ABSTRACT

Despite increased attention towards the negative environmental impact of computing (Becker 2023; Hazas and Nathan 2017; Maxwell and Miller 2012; Comber and Eriksson 2023), digital game creation continues to maintain a veneer of environmental neutrality. Artists working within this perceived "virtual" space can easily do so without engaging the environmental and/or climate impacts of game making, and creators who do wish to be more mindful of environmental and climate concerns have limited models or resources from which to draw from.

While some artists working in digital games have engaged issues of sustainability as a theme within their work (Chang 2019; Abraham and Jayemanne 2017), artists and researchers are just beginning to address the carbon-impact of game development itself (Klammer 2020; Abraham 2022; Werning 2021; Whittle et al. 2022), and much of this work focuses on larger scale (commercial studio) development practices. The Renewable Artgames Residency (RAR) was a prototype initiative focused on low-carbon digital design methods and new modes for sustainability-focused creation practices, with a particular focus on smaller-scale (art, experimental and indie game) creation practices. It aimed to reorient game creators towards the impacts of digital game creation as part of an expanded ecology that includes hardware and material resources, the energy cost of computing and its intersection with common development and creative practices, the impact of creative outputs (including distribution and game play), and, in the context of these challenges, the physical and emotional impact of the creative process. RAR sought to look beyond "greenwashing" approaches to offer real, efficacious solutions and models, developed with and through practice, that could both inspire and support art game creators who hope to engage in more sustainable creative practices.

Proceedings of DiGRA 2024

The RAR prototype was designed: 1) to investigate different modes of slower-paced, reflective game design; 2) to imagine values-led sustainable practice in the context of art games, and 3) to provide space for environmentally friendlier digital use and creation. The normative modes of creative practice in the field of games are rapid paced iteration, crunch and game jams (Kultima 2021; Kerr 2017; Borg et al. 2020), where creators are often pressured to create work quickly, without much time for reflection, reconsideration, and revaluation. This dynamic extends from the commercial games industry into art game making, despite the potential for slower, more mindful creative practice (Stone 2023). The ecosystem of digital games is also carbon-consumptive, from the resource consumption of the developers creating them, to the energy costs of the computers playing and/or streaming them (Abraham 2022). There are few spaces globally that focus on environmentalism and gaming, let alone the practice of creating low-carbon games. The RAR worked to propose alternatives to the unsustainable energy practices of modern game making, and find ways of envisioning videogames within the context of a climate-conscious future, at the scale of indie, personal, and/or art game creation.

The RAR was initiated with a consultation process that helped structure the parameters of the residency, and guide evaluation metrics, suited to the small-scale practices of art gamemaking. This research fed into the design of a remote, synchronous, solo residency held across multiple locations in Canada in the summer of 2023. The first iteration of the residency supported three self-directed artists (two internal and one external) using solar power stations. The residencies were linked together through the asynchronous sharing of reflective practice, and daily synchronous online/telephone check-ins. Outcomes through and from this work were synthesized into a zine, offering a reflection on the process and outcomes of the residency.

Initiatives like the Renewable Artgames Residency can give space for designers and developers to combine digital games with environmental concerns and climate action strategies. The RAR served to both trial and model strategies for sustainable creation, and initiate a community of practice surrounding mindful, sustainable game making. This short paper shares its practical and experiential outcomes.

REFERENCES

Abraham, B. J., and D. Jayemanne. 2017. “Where Are All the Climate Change Games? Locating Digital Games’ Response to Climate Change,” November. https://opus.lib.uts.edu.au/handle/10453/121664.

Abraham, Benjamin. 2022. *Digital Games after Climate Change*. Palgrave Studies in Media and Environmental Communication Ser. Cham, Switzerland: Springer.

Becker, Christoph. 2023. *Insolvent: How to Reorient Computing for Just Sustainability*. Cambridge, Massachusetts: The MIT Press.

Borg, Markus, Vahid Garousi, Anas Mahmoud, Thomas Olsson, and Oskar Stålberg. 2020. “Video Game Development in a Rush: A Survey of the Global Game Jam Participants.” *IEEE Transactions on Games* 12 (3): 246–59.

Chang, Alenda Y. 2019. *Playing Nature: Ecology in Video Games*. Electronic Mediations 58. Minneapolis: University of Minnesota Press.

Comber, Rob, and Elina Eriksson. 2023. “Computing as Ecocide.” In *Computing within Limits*. LIMITS.

Hazas, Mike, and Lisa P. Nathan. 2017. “Introduction: Digital Technology and Sustainability: Engaging the Paradox.” In *Digital Technology and Sustainability*. Routledge.

Kerr, Aphra. 2017. *Global Games: Production, Circulation and Policy in the Networked Era*. Taylor & Francis.

Klammer, Michael M. 2020. “Videogames for Future: How Digital Games Can Sensitize for Climate Change and Promote Sustainability.”

Kultima, Annakaisa. 2021. “Negative Game Jam Experiences.” In *Sixth Annual International Conference on Game Jams, Hackathons, and Game Creation Events*, 55–59. Montreal Canada: ACM.

Maxwell, Richard, and Toby Miller. 2012. “‘Warm and Stuff y’: The Ecological Impact of Electronic Games.” In *The Video Game Industry*. Routledge.

Stone, Kara. 2023. “Reparative Game Creation: Designing For and With Psychosocial Disability.” *Design Issues* 39 (1): 14–26.

Werning, Stefan. 2021. “Ecomodding. Understanding and Communicating the Climate Crisis by Co-Creating Commercial Video Games.” *Communication 1* 8 (1).

Whittle, C., York, T., Escuadra, P.A., Shonkwiler, G., Bille, H., Fayolle, A., McGregor, B., Hayes, S., Knight, F., Wills, A., Chang, A., & Fernández Galeote, D. 2022. “Environmental Game Design Playbook (Presented by IGDA Climate Special Interest Group).” International Game Developers Association. https://igda.org/resources-archive/environmental-game-design-playbook-presented-by-igda-climate-special-interest-group-alpha-release/.