ERCIM "ALAIN BENSOUSSAN" FELLOWSHIP PROGRAMME

ERCIM
European Research Consortium for Informatics and Mathematics

Scientific Report

First name / Family name	Alina Striner
Nationality	USA
Name of the *Host Organisation*	CWI
First Name / family name of the *Scientific Coordinator*	Pablo Cesar
Period of the fellowship	01/06/2019 to 31/5/2020

I – SCIENTIFIC ACTIVITY DURING YOUR FELLOWSHIP

This year served as a period of academic and personal growth. Over the course of my fellowship, I learned the value of working and getting feedback from the rich DIS research group, and am continuing several threads of my research as a post-doc in the group. My experience and my work were also heavily shaped by the COVID-19 crisis.

Spectrum of Audience Interactivity:
A primary focus of my research is describing audience participation. In this research, I worked on framing the concept of audience interactivity in storytelling and entertainment using the domains of digital games, theatre performances, and theme park experience. During the first part of my ERCIM fellowship, I conducted a cross-disciplinary literature review to evaluate and iterate upon this vocabulary, using our findings to develop a validated spectrum of audience interactivity for entertainment domains.

As a follow up to the literature review, I conducted a series of interviews with experts in games, theatre, and theme parks to elicit themes for future research and direction in this domain. The goal of these expert interviews is to create an agenda for audience participation research in HCI. This work will be submitted to ICIDS 2021.

Twitch Design Space:

As part of my work on audience participation, I worked on research to understand the audience participation design space in game live streaming. The increasingly popular

medium of game live streaming offers new opportunities for audiences to interact with and affect gameplay and media experiences. While research identifies new ways for audiences to interact with games, we have yet to clearly delineate the audience participation design space in game live streaming. Through a qualitative analysis of student projects for a Twitch design course, I identified three core concepts integral to live streaming: agency, pacing, and community, and created a design space and set of step-by-step to understand and map these concepts. After creating the design space, we validated the value of through a validation study. This research was submitted to CHI Play 2020.

Technology as Magic: I lead a team of 10 people to explore the concept of technology as magic, using tabletop role-playing games as a tool for critical reflection, helping designers identify unconscious assumptions about technologies. First, we wrote and submitted a workshop proposal for this research. Then, we used the concept we developed for the workshop to run two playtests of the technology as magic concept, as two 5-hour sessions.

Traction Project:
Traction will provide a bridge between opera professionals and specific communities at risk of exclusion based on trials, understood as experimental attempts, to foster an effective community dialogue between diverse individuals and collectives on each one of the nodes. In collaboration with the DIS group at CWI, I worked on shaping the initial stages of this research. I participated in research agenda meetings, and worked with trial leaders to understand the nature of the research. As part of the research, I ran focus groups and conducted a literature review for the project.

VR Dome: I helped write a grant proposal for EU VR Dome project. Unfortunately, the project was not accepted by the EU commission, however we are planning to use this work to inform the design of Mediascape, a project with the Sound and Vision Museum of the Netherlands.

Service to community: During my fellowship, I acted as an associate chair (AC) for IMX, the ACM conference on Interactive Media Experiences. As part of my AC experience, I reviewed research and helped shape the nature of the research.

II – PUBLICATION(S) DURING YOUR FELLOWSHIP

ICIDS 2019: "A Spectrum of Audience Interactivity for Entertainment Domains"

The topic of the paper aligns with the creative industries top sector, focusing on the fundamentals behind audiences and interaction. Audience interactivity has the power to immerse and empower audiences across different entertainment domains. Although these mediums use different terminology, sometimes describing interactive approaches as participatory or immersive, their desired outcome is to design fulfilling storytelling experiences. This paper introduces a *Spectrum of Audience Interactivity* that establishes a common taxonomy for designers working

across the audience participation design space. The work expands on an early vocabulary developed through co-design sessions with children, conducting a cross-disciplinary literature review to evaluate and develop a validated spectrum.

Technology as Magic (CHI 2020/DIS 2020, workshop proposals)
This workshop explores tabletop role-playing games as a tool for critical reflection, helping designers identify unconscious assumptions about technologies. In tabletop role-playing games, players participate in imagined narratives that differ from their personal real-world experiences. We use metaphors of "magic" to situate attributes of present- day technologies in the play of tabletop role-playing games. By role-playing with these metaphors, we provoke designers to reflect on individual and shared interpretations of technology. The primary outcome of this workshop is a re- search agenda: (1) to employ the "technology as magic" metaphor in design practice and (2) to study the effects of this method as part of critical reflection in design.

Roles and Relationships in Live Esports Tournaments (CHI 2020, workshop submission)
The rapid growth of professional gaming has created hybrid eSports audience experiences, combining online Twitch streaming with physical stadium events. We consider the roles and relationships that exist in eSports tournaments in order to inform the design of future audience experiences. In this paper, we describe our plan to conduct ethnographic work in the domain. First, we will survey the eSports com- munity to identify key roles and relationships. Then, we will record and analyze communication patterns and conduct interviews during live events. Together, our findings will inform possible designs for richer audience and player relationships in this hybrid digital and physical space.

Mapping Design Spaces for Audience Participation in Game Live Streaming (CHI Play 2020, under review)
Game live streaming on popular sites such as Twitch affords new interactive experiences in which remote audiences not only interact socially, but also affect gameplay in engaging ways. While research explores novel ways for audiences to participate via games, we have yet to clearly delineate design spaces to help us create and analyze these new experiences. In this paper, we construct a theme map of audience participation experiences in game live streaming. We derive our map through thematic analysis of design process documents from a course about audience participation on Twitch. Our map connects observed themes with three core concepts of live streaming: Agency, Pacing, and Community. We detail steps for using our theme map to analyze designed experiences. Further, we validate our map as a design analysis tool, evaluating its clarity with designers and developers of audience participation experiences on Twitch.

III – ATTENDED SEMINARS, WORKHOPS, CONFERENCES

ICIDS 2019: I presented my framework of audience interactivity paper at the International Conference on Interactive Digital Storytelling (ICIDS) in Salt Lake City, Utah. The paper won the best long paper award at the conference. In addition, I attended two workshops at ICIDS before the conference began.

CHI 2020: I presented my workshop paper on Roles and Relationships in Live Esports Tournaments as part of an online CHI workshop called Be part of it: Spectator Experience in gaming and eSports. After presenting my work, the online panel had a discussion about the nature of Esports.

IV – RESEARCH EXCHANGE PROGRAMME (REP)

REP institute: Fraunhofer FOKUS – Fraunhofer-Institut für Offene Kommunikations-systeme, FAME group, Berlin, Germany
Local scientific coordinator: Dr. Stefan Arbanowski

Description:
Due to the Corona pandemic, this exchange happened virtually on 14/5/2020, as a one-day presentation and discussion of my work. During this exchange, I virtually presented my research to Stefan and his group. After the presentation, we had a lengthy discussion about employing the findings of my Twitch Design space research project to the work of FOKUS. In addition, we further discussed collaborating on a future work that integrated this research with their own project.