

Faculty Exchange Program Report

Fall 2017

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This report summarizes the activities carried out during the faculty exchange period of my sabbatical leave at the Human Computer Interaction Institute (HCII) – Carnegie Mellon University, in Pittsburgh, PA from August 24 to December 15, 2017, hosted by Prof. Jeffrey Bigham.

Summary of Activities

During the four months period of my faculty exchange at the HCII I had the privilege to work with Prof. Jeffrey Bigham and the Accessibility@CMU team. According to the work plan, the main aim of my visit was to perform exploratory research under the topic of inclusive collaboration, by exploring crowdfunding mechanisms using nano-donations for social good. The research plan expected an exploratory study with the development of a prototype and a user study.

The visit allowed the kick off of the Impulse Donation - <https://www.impulsedonation.org>, which aims to create a system for nano-donations to individuals who need support in their social causes. An exploratory literature review and a benchmarking of major crowdfunding platforms for charity was performed to identify current issues and research challenges in this domain.

Blockchain has been a hot topic in this domain and currently there are some crowdfunding platforms that are built into this technology. Moreover, there are a few platforms that support cryptocurrencies for transactions. This approach was explored as a possible solution and a proof of concept was developed using the Ethereum platform. The proof of concept allowed us to evaluate the limitations of the technology and its application in the scope of nano-donations within the Impulse Donation project.

A prototype of the Impulse Donation platform was developed for conducting a user study to investigate how users behave using a mobile application for nano-donations. During two weeks, potential users were invited to use the Impulse Donation prototype application for iPhone and Apple Watch, available at the Apple Store. The results of the user study will be published during 2018. Regarding the publication of the other work carried out at CMU, a paper was submitted for a conference, and two other papers are under preparation and will be submitted during 2018.

My faculty exchange period also gave me the opportunity to meet with some of the researchers of the Cognitive Assistance Lab, that have been developing the NavCog app. The

solution aims to help blinds to “explore” the world without vision, a research topic that I am very familiar and have participate in several research projects.

On my arrival at CMU I had the opportunity to participate in the “4 minutes madness”, a session where all HCII faculty members present their research topics to the incoming PhD students. I also had the opportunity to attend several HCII seminar series talks, specially related with the accessibility topic. Other very interesting talks that I had the opportunity to attend were the CMU Crowdsourcing Lunch Seminars, informal discussion series on crowdsourcing, jointly hosted by the HCII and Language Technologies Institute in the School of Computer Science at CMU.

The HCII also organized several social events, for the faculty members, researchers, visitors, PhD and MSc students. I had the opportunity to participate in the welcome reception, the monthly HCII Happy Hour and the Christmas reception.

I participated in some social events promoted by the CMU Portugal program, including the InRES kick-off meeting where I meet the teams and their innovative projects. During these events, I had the opportunity to meet some colleagues and students in the CMU Portugal program.


Acknowledgments

Being at CMU and working together with the amazing team headed by Prof. Jeffrey Bigham was a unique and enriching experience: Thank you!

My special thanks to all the team at the Big Lab. Congratulation for your great work and thank you for hosting me during my faculty exchange period.

My time at CMU would not be possible without the CMU Portugal Program. Thanks for the great opportunity to perform research in this world-class environment and for all your help and support.

Finally, a thank you to the Universidade de Trás-os-Montes e Alto Douro, my home institution, for allowing me to engage in this program and have my sabbatical leave at CMU.


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