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typological, demographic and socio-economic municipal public housing' characterization, will provide relevant information to the correlation between community engagement, e-participation, e-planning and e-governance and social participation. These will be a key aspects within the inclusion of socio-cultural contexts concerning rehabilitation projects in Lisbon municipal neighbourhoods. The goal is to contribute to integrated and comprehensive public housing policies, alongside the collaboration of "excluded" population in innovative solutions to narrow municipal tenants, housing building rehabilitation and administrative modernization.

The research will include the development of: 1) an app (with cartography 2D of municipal districts of public housing) for interface manipulation; 2) a digital platform for interaction between municipal tenants and Lisbon municipality; 3) mapping of spatial dynamics in municipal public housing districts using techniques derived from visual graph analysis and space configuration accessibility and visibility analysis; 4) a collaborative map of Lisbon with socio-spatial data; 5) social housing profiles visualized in "augmented reality" environment. It will be need to assemble a feedback process able to pragmatically assure: (a) innovation and social cohesion; (b) technology imbued within daily life; (c) the reduction of administrative and operational costs in rehabilitation projects; (d) quality (effectiveness and efficiency) of public governance; (e) an advance regarding how Lisbon municipality interacts with its tenants, promoting a responsive way. The project will be structured in the collection, tracking, processing, mapping and visualization of data in real time and in a virtual and augmented environment of Lisbon' cartography.

The outputs can be: *i*) an app of interaction between municipal tenants and Lisbon municipality; *ii*) a responsive digital platform to feedback relationships between municipal tenants and Lisbon municipality with information about the configuration of municipal districts; *iii*) maps of social-spatial dynamics of the municipal districts of public housing; *iv*) augmented cartography of Lisbon; *v*) software for socio-cultural participation processes in municipal neighbourhoods rehabilitation projects.

Using mixed realities to explore consumers behaviors

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Abstract

The ongoing and future research focus on exploring how mixed realities, especially virtual reality, may be used for changing consumers' behaviours in complement or substituting traditional advertising means. With this main aim the group of researchers submitted a research proposal for FCT (call May 2017), are co-advising a master thesis and have several targets for future research.

The project submission for FCT was done by a collaboration between BRU-IUL, ISTAR-IUL and Dinamia'cet and emerges from massive reality of tourism in Europe and the strategic plan of the Portuguese Government of triplicating the number of cruisers in the country. This new reality creates the urge to pay a deeper attention to the cruisers' tourists and offer them a better and more diversified knowledge of the city they are visiting. The project is structured along two priorities in the domain of Tourism and Hospitality. The first is the definition of new routes to cruise passengers that will broaden the existing offer and the second is the use of

virtual reality as a way to induce in tourists' new opportunities to visit. As a consequence of having a good experience we believe tourists will become more satisfied and the levels of their subjective well-being will rise.

In the scope of the previous proposal a master thesis in Marketing is under development by Inês Amorim and co-supervised by João Guerreiro and Sara Eloy. In a time where major brands are aligned with the latest technology to deliver more impactful experiences, this research aims at studying how a VR experience can be used in moment marketing strategy to influence consumer's perception of a brand. By using VR Inês Amorim aims at being enable to measure engagement, satisfaction, intention and willingness to buy.

Within the FCT project workplan the task and collaboration between the ISTAR group was the following: João Guerreiro tasks were related to the development of the theoretical conceptual model to test under VR environments and to the literature review methodology based on text mining analysis, Sara Eloy collaborated on the definition and development of the architectural scenarios and the design of the virtual reality experiments, Miguel Sales Dias collaborated on the computer sciences issues related to the development of the Virtual Reality experiments,

Applying Deep Neural Networks to Evaluate Image Quality

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Abstract

Most online platforms (e.g. university platform, LinkedIn, etc) allow the users to upload pictures to their account profile. The fact that a user is free to upload any profile picture of their liking to a university or a job platform, has resulted in some occurrences of profile pictures that aren't very professional or adequate, in any of those contexts (e.g. a picture of an animal, a person wearing sunglasses, a picture taken on a beach). Not only is this circumstance inappropriate, but also, it makes it difficult to identify the person, leading to wasting time and probably making that person lose some credibility.

In this work we will supervise a master's student whose task is to classify the image quality of a profile picture, based on previously chosen criteria (e.g. no presence of sunglasses or hats, etc). To accomplish this, two different approaches based on deep neural networks (DNN) will be used. The first approach uses a DNN trained for image classification where it'll learn which features or criteria defines a profile picture as adequate. The second approach uses a DNN trained for object detection that will evaluate the quality of the picture, based on previously defined criteria.

One goal of this work is to find which of the two deep neural network approaches offers the best performance on this problem. The second goal is to verify that at least one of the two approaches can perform a correct image quality evaluation. Finally, the last goal is to identify and analyse features learned by the first DNN approach to evaluate the quality of the profile pictures.

This work will use and adapt deep learning frameworks such as Tensorflow [3].