Marie Skłodowska Curie Action – Postdoctoral Fellowship 2023
Expression of interest – Hosting offer
(MSCA-PF-2023)

Contact Person/Scientist in charge *(data of the principal investigator of the research group/lab or scientific supervisor)*	Name	Prof.Dr. Leman Figen
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Laboratory /Department /Institute /Centre / *(data of the centre/department where the fellow would be located*	Name	Istanbul Technical University, Department of Architecture, Coordinator of Architectural Design Computing Graduation Program, Head of Game and Interaction Technologies Graduation Program
	Address	Istanbul Technical University, Faculty of Architecture, Department of Architecture, Taskisla Campus, Taksim, Istanbul, Türkiye
Research Area *(Please select the research area: corresponding to the eight MSCA evaluation panels. You can select between one and up to three scientific areas per EOI)*		Social Sciences and Humanities (SOC) Information Science and Engineering (ENG)
Brief description of the Centre/Research Group *(max. 1,600 characters including spaces: information about the research centre or research group, scientific staff. Please include URL if possible)*		The program is running its curriculum under the Informatics Department. Architectural design education in the scope of the Architectural Design Computing program includes a serial of courses containing the efficient application and usage of these technologies in theoretical and practical design areas such as digital design environments, visualization and graphical representation, modelling and animations, databases, hypermedia, multimedia, representations in world wide web, computer programming for architectural problems, architectural co-designing in virtual environment, game and gamification, theoretical models of computational architectural design, methods, approaches and paradigms. The **mission** of the program is to develop and use products, models and systems at the intersection of architectural design and information and communication technologies; to produce original solutions to problems with up-to-date knowledge and skills in the direction of scientific, technological, intellectual and social developments, with a researcher and expert attitude, using a scientific system of thought and various approaches, methods and techniques; to carry out research activities that can be applied in the fields of research, practice and education.

| **Project description**
(max. 1,800 characters including spaces: short description of the research project / research line where the fellow would be hosted and develop his /her project) | Türkiye has a very rich cultural heritage and a rich variety of architectural spaces. Mixed Reality (MR) media, where the environmental and structural features that make up our cultural heritage is provided to the user by being supported with a digital layer, have many potentials for improving the visitor's experiences in these places. In this regard, even though there are some multi-media-guides and game applications that deal with (issues about) cultural heritage, it is seen that these applications have not given the necessary attention to user behavior and spatial cognition. This research will deal with issues of conveying cultural and historical information, use of elements of gamification and understanding/improving user's spatial cognition within the scope of the concept of cultural heritage. Different than previous efforts, it will focus on understanding spatial behavior and cognition of visitors of a heritage site, and study the similarities and differences among the content and nature of their spatial mental representations that visitors will form as they experience a heritage site by using wearable or portable MR technology with tactile embedded interaction and with or without the presence of game elements and thereby will make a significant contribution to the field.
The research design consists of 5 work packages: [IP1] first stage will involve documentation of the selected route at the site and generation of the contents of game components to be associated with that route [IP2] In the second stage, the interaction interface of the MR medium will be designed, the components of the game will be developed. [IP3] In the third stage, first the pilot study and then the main empirical study will be carried out. [IP4] At this stage, data collected from the empirical study will be analyzed for possible correlations and patterns in the light of the research questions. [IP5] In this last stage, the results of the analyses will be evaluated and discussed.

The research study is a multidisciplinary project to be conducted in fields of Architecture, MR environments and Game Design; it is aimed to be completed in 30 Months. All the work packages is carried out under the supervision of the project coordinator and researchers, and scholarship students associated with the study will provide support in different stages of the project. Experts in the fields of cultural heritage interpretation and development of MR Game environments, will take part in the project as consultants. As a part of the widespread effect of the study, the MR Game application will be transformed into a commercial product, the application will be conceptualized as a part of a system of city guide and smart city applications, and will be able to be used as a tourist guide. The application also has the potential to develop a library for application and to be developed for many different cultural heritage sites; design principles will be defined towards this goal. With this MR game interface it is aimed to increase visitors' awareness/consciousness about cultural heritage and its preservation. The second important effect is the contribution that this application will make to the field of conservation by improving/facilitating spatial cognition and learning. |
| **Applications: documents to be submitted and deadlines**
(Please indicate the documents that the candidate fellow should submit to establish contact: CV, letter of motivation, letter of references, etc., please indicate deadline. Recommended deadline: April 2023) | CV, letter of motivation, letter of references (2), previous publication (s) if any.
The deadline of the admission is April 2023. |