Immersive Flooding Event Simulation for Climate Resilience Analysis

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Immersive Technology has been widely discussed in various applications; the development of this technology creates an experience which is not possible in our physical reality. The rapid development of computer software and hardware makes the 3D visualisation and simulation of real-world scenarios could be represented in much higher resolutions. Recent studies show that visualising natural disasters immersively could be beneficial to increase people’s awareness and prepare the public for future event. In a recent research project, we visualized and simulated a flooding event, Storm Frank, in 2015 and its damage to the local residence of a town called Ballater outside Aberdeen, UK on Virtual Reality form. To provide accurate simulation, topographic data and real-world environmental data such as weather, rainfalls, river level data etc., are applied and analysed in this project. This immersive experience provides significant opportunities for effective communication among all users. The project used 3D modelling and simulation of the flooding encompasses the development and exemplification of the model of the town and real scenario flooding event, retrieving data from various sources such as geographical data and environment data. The gamification of this application shows great potential to be used for public engagement event, policy making and educational purposes.