

# FlavourGame: Interaction design in hybrid games

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## Abstract

Throughout the past years we have seen games with augmented reality (Arnold, 2017), board games using smartphones as assisting tools (J. Rogerson et al., 2021), and tablets being used as boards (Mora et al., 2016), or even games using real food – edible games (Sandercock, 2019; Wei & Cheok, 2012). This combination of physical and digital components presents new and unimagined possibilities to game designers.

A serious hybrid game model is being developed in the scope of the project, which combines the digital component (based on a Tangible User Interface) with a board game. This hybrid game is called FlavourQuest and its objective is to support the autonomy and motivation of children from 10 to 12 years old regarding healthy food choices. In fact, real foods with their flavors, aromas and textures are introduced as props to the players during the game, creating a whole new sensorial experience.

Obesity is seen by the World Health Organization (WHO) as an epidemic that will cause several health problems. WHO recommendation number 1, for tackling the obesogenic environ-

ment of children and norms, is to “implement comprehensive programmes that promote the intake of healthy foods and reduce the intake of unhealthy foods and sugar-sweetened beverages by children and adolescents” (WHO, 2016). WHO also recognizes the important role that Information and Communication Technologies play in improving public health. Thus, WHO identifies eHealth as a strategic area (WHO, 2023). With this in mind, FlavourGame is a project that has a social impact by improving the quality of life and health of children by intersecting Arts, Technology, Communication and Health.

Regarding the methodological framework, the FlavourGame project follows a participatory design approach with children who were involved in the design process from the early stages in order to share their ideas and feedback.

In this poster, the various stages of design and development of the FlavourQuest hybrid game are presented, namely: a) the analogue prototype; b) the design of the narrative and its framework; c) the design of the characters and the game tiles; d) the graphical interface of a web app for mobile devices that guides the game tasks, and e) the physical computing layer.