URBAN ASSEMBLAGE: THE CITY AS ARCHITECTURE, MEDIA, AI AND BIG DATA.

• Paper / Proposal Title:
Aico – Smart Hydroponic System

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• Abstract (300 words):
The world currently suffers from an aggravated scarcity of resources and an increasing concentration of its population in large urban centres. Growing food in urban areas is a major challenge for residents of large cities. As the Covid-19 pandemic spreads impacts have been felt on the means of production and distribution of food in all countries. There was an increase in demand for food delivery and online commerce, as a way of maintaining social distancing measures. Hydroponics presents a solution for cultivation in limited spaces because it presents cheaper methods both in relation to the use of electricity and water consumption. In this project, the Kratky method was studied, which allows hydroponic cultivation without the use of electricity to maintain the balance of the plant system. Thus, a more compact product was conceived, as it does not need any peripheral system for maintaining the plant's health, integrating IoT technologies to assist the user throughout the product's usability process. The Aico project has great potential because it is accessible to people with any level of knowledge in planting and, therefore, expands the user's ability to produce their own organic and fresh food, improving their nutrition. The objective of this new project and to continue the
development of Aico, to expand its capacity for food production at home and create a service by application that connects the user to care that the plant needs. The data collected by the application will be opened up so that the user community can view their progress as urban farmers. In the context of smart cities, Aico has great potential to develop a network of local growers, inserted in the niches of urban hydroponic cultivation and home automation, being a viable and simple alternative to the problems experienced by the inhabitants of large cities.

• Author(s) Biography (200 words each):

Fabi Costa is a Master's student in Industrial and Product Design, at the Faculdade de Belas Artes da Universidade do Porto (FBAUP). They have a Bachelor's degree in Industrial and Product Design from the Escola de Belas Artes (EBA) at the Universidade Federal do Rio de Janeiro (UFRJ), since 2017. Their area of expertise is in the field of product design and services for the Green Revolution, focusing on the development of systems for urban cultivation and smart cities. They also work with rapid prototyping, 3D modelling and 3D printing methods. They are currently developing a project for smart hydroponic cultivation for urban environments, at the University of Porto.