The H.EX Garden

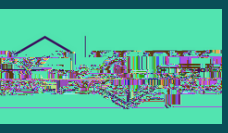
By Hydroponics Excellence LLC

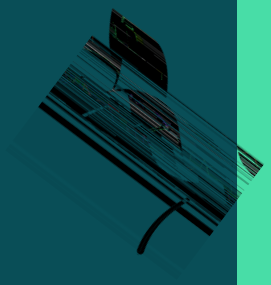
Problem Statement

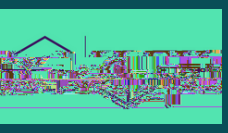
Produce sold in grocery stores and supermarkets lose 5,0 of their nutrients during transportation and contain alarming levels of chemicals and pesticides By growing your own food you can save money while enjoying fresher tastier and healthier produce So why is it then that less than half of the US population grows their own food Our research indicates that the three main barriers stopping many from gardening are time space and knowledge The H EX Garden makes it possible for more people to grow their own food by removing the need for outdoor space minimizing user input and requiring no previous gardening knowledge

The Team

Hydroponics Excellence is a team of seven engineers dedicated to engineering for social innovation Among the team there is a shared interest in nutrition and health and we all love a nice home cooked meal We are designing the H EX Garden because we have felt the need for it ourselves and we want to share our solution with everyone







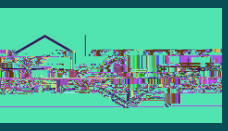
The alpha prototype was designed for the purpose of conducting functionality tests on It does not match the form factor of the production design and yet informs the design with the data collected from it We grew two rounds of produce with this design and measured water quality water consumption ppb

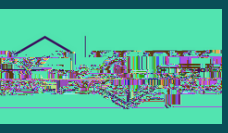
The Beta Prototype:

The H.EX Garden Prototype

The H EX Garden can be easily installed to your wall via french cleats making it on display and out of the way It provides automated lighting and water circulation cycles to ensure optimal growing conditions Via app connectivity the user can adjust settings to their liking and receive updates when they need to perform system or plant maintenance The current prototype can house up to eight plants at a time It has been designed to allow attachment of one auxiliary unit per side each of which would increase the plant capacity by eight These auxiliary units would connect to the central electronics and water circulation system This prototype has established that the core functionalities of the production model are compatible with its sleek form factor It has also demonstrated structural integrity and the team learned a great deal constructing it

Prototype Trial Assembly





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