

**Senior Design Projects Facilitated by FIH  
2021-2022**



Project name	Project short description	Organization	Location	Depart.	Students- Majors and Minors	Advisor: Department
<b>LATAM Intelligent Filter for Education (LIFE)</b>	Our objective is to create a small-scale, intelligent, and interactive water-filtration system for hands-on education, designed as a kit to better accommodate shipping constraints. This filter will be accompanied by in-depth education modules that focus on the importance of water, dangers of water-borne diseases, and other STEM material, all of which will be preloaded to a tablet. The tablet app will also contain manuals for up-scaling the filtration system in a rudimentary way, providing a tangible benefit to the community. The Intelligent Filter and accompanying tablet will be shipped to LATAM through our client, Flying Ostrich Media.	Flying Ostrich Media	Latin America	General Engineering Mechanical Engineering Neuroscience Biology Public Health	Cynthia Jauregui - General Engineering, Minor in Entrepreneurship Andrew Lemus - Mechanical Engineering, Minor in Aerospace Engineering Edison Yang - Mechanical Engineering, Minor in Aerospace Engineering Daniel McCann-Sayles - General Engineering Nicole Mossing - Public Health Jordyn Quesenberry - Biology, Public Health Linnea Rothi - Biology, Neuroscience Emily Nakata - Biology, Public Health	Jessica Kuczynski, PhD: General Engineering Kourosh Pahlavan, PhD: General Engineering Michele Parker, PhD: Biology & Public Health
<b>Squeaky Clean: Health and Hygiene Education for Children in Senegal</b>	Aim to teach children in Senegal about health in a fun and innovative way via a game app that educates and empowers children with the basic knowledge of WASH—water, sanitation, hygiene. We hope to integrate our game into the curriculum of local pre-primary and elementary schools throughout Senegal. To facilitate this process, we plan to donate 5 tablets after the creation of our app to help teachers implement this program into their classes. We hope that Squeaky Clean will become a major resource for Senegalese children to learn about proper hygiene.	Skin-is-skin	Senegal	Web Design and Engineering Computer Engineering Biology Public Health Computer Science	Matthew Isaac Tolosa - Web Design and Engineering Krizia Mae Araracap - Computer Engineering Evan Chou - Web Design and Computer Engineering Reha Shah - Biology, Public Health Shelby Tadaki - Biology, Public Health Sonia Panjani - Public Health and Computer Science	Silvia Figueira, PhD : Computer Science & Engineering Michele Parker, PhD: Biology & Public Health
<b>Wage Wizard</b>	Geolocation based application that documents the hours worked by workers to help combat and prevent wage theft	Santa Clara Wage Theft Coalition	Santa Clara County	Computer Engineering	Kyle Felip Mondina - Computer Engineering Jack Davey - Computer Engineering Brett Rimmer - Computer Engineering	Silvia Figueira, PhD: Computer Science and Engineering
<b>Cervical Cancer in Uganda</b>	Our team plans on developing a mobile application that will teach young girls, women, and men in Uganda about cervical cancer, HPV, and prevention mechanisms. Our app will contain colorful pictures and diagrams that are easy for low literacy communities to understand. It will also include surveys to get feedback on the efficacy of the app and questions to test their knowledge. Our main goal is to empower through education and ultimately prevent cervical cancer in Uganda.	Rose Academies	Uganda	Computer Engineering	Matthew Hall - Computer Engineering Patrick Zhang - Computer Engineering Matthew Brunkhorst - Computer Engineering	Silvia Figueira, PhD : Computer Science & Engineering
<b>Water Distribution Analysis for Nochiama, Colombia</b>	The project is in partnership with Politécnico Gran Colombiano, a University in Bogota, Colombia, with the aim of reducing water scarcity in the rural communities of Nochiama, Colombia. The team looks to provide a portfolio of water resource solutions to the local community and implement one such solution. The portfolio will also deeply analyze the potential benefits of suggested design solutions.	Gran Colombia	Medellin, Colombia	Civil, Environmental and Sustainable Engineering	Lola Martin Uribe - Civil Engineering Claudia Newell - Civil Engineering Philip Bortz - Civil Engineering Gisselle Paz-Ortiz - Civil Engineering minor in Environmental Studies	Laura Doyle, PhD: Civil Engineering
<b>Supetai Well Water Purification</b>	Create a purification system integrated with Supetai Well as an effective, long-term solution that will provide potable water and self-sufficiency to the community. We intend to design and implement a water purification system that removes fluoride and is integrated with the well, where the potable water will also be collected.	Sabore's Well	Kenya	Civil Engineering	Nicole Valdivia - Civil Engineering Claire Russon. - Civil Engineering Geovanni Usher - Civil Engineering	Aria Amirbahman, PhD: Civil Engineering
<b>Dishcraft Robotics</b>	Dishcraft is a company trying to build a more sustainable world and ease California's water burden, but they are facing a bottleneck problem and struggling to load/unload their carts into a truck in a timely manner. Our senior design project is going to be building a device that loads/unloads these carts onto a truck in a timely manner, saving time, money, staff needed, and helping advance their mission to conserve water.	Dish craft	Bay Area	Mechanical Engineering	Dalveer Grewal - Mechanical Engineering Ishan Kumar - Mechanical Engineering Sean McCauley - Mechanical Engineering Hayelom Fitsum - Mechanical Engineering Nick O'Brien - Mechanical Engineering	Robert Marks, PhD: Material Science
<b>Foodbank</b>	Mobile phone application that will allow Cali's food bank to process all the paperwork related to donations. This includes not only taxes information, receipts etc but also keeping track of who donated what (traceability)	Foodbank Cali	Cali, Colombia	Computer Engineering	Alex Fang - Web Design Engineering Adrian Ramirez Lopez - Web Design Engineering Rodrigo Mejia - Web Design Engineering Arren Leung - Computer Science and Engineering	Angela Musurlian, Computer Science & Engineering
<b>Victoria Relief Project - Kitchen Appliances for Women in Southern Cameroon</b>	A common yet overlooked issue that families who live in Southern Cameroon are facing is the long time and extensive physical work that it takes to prepare some of the most basic and important meals they have. This unnecessary and avoidable problem mostly affects women, the cooks in the family. Our goal is to reduce the time and physical exertion needed for these women to cook for their families. We will be doing this by partnering with the Frugal Innovation Hub (FIH), and The Victoria Relief Foundation to create useful tools for women in rural areas of Africa.	Isaac Company	Cameroon	Mechanical Engineering General Engineering	Ben Voelz - Mechanical Engineering Guillermo Escobar - Mechanical Engineering Leslie Valenzuela - General Engineering Seth Brown - Mechanical Engineering Shane Murphy - Mechanical Engineering	Jessica Kuczynski, PhD: General Engineering Godfrey Mungal, PhD: Mechanical Engineering
<b>Aidbase Project</b>	AidBase is a non-profit organization and non-government organization database and social media platform in which NGOs can find, build connections, and collaborate with others around the world.	N/A	N/A	Computer Engineering	Jeremy Mekker - Web Design and Engineering, Minor in Studio Art	Silvia Figueira, PhD : Computer Science & Engineering

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