In the developing world, wheelbarrows were being used to transport people to hospitals during emergencies. How could we improve this situation?

No one deserves to be carried on a wheelbarrow. Even less so when you are sick or injured. But the lack of resources and the scarcity of ambulances sometimes creates that harsh reality.

Studies showed us that improving ambulance response time is one of the most effective ways to better healthcare in developing countries. And also, that precious time is constantly being stolen from ambulances when performing the simple transportation of patients in non-emergency situations.

With that in mind, we created the Community Powered Health Transportation System. A system that uses resources generally abundant to the developing world – motorcycles, bicycles and people –, to create a cost-effective solution that can have a great impact on health, well-being, and the self-esteem of the population.

Inspired by the sharing-economy model, we designed a full system – service, software and hardware –, where every touchpoint and stakeholder involved had to be carefully considered.
Studying Brazil’s reality.

Early sketches.

Example of partnership: the “UberAngels”.

Project development.

Container collection point.
The Community-Based Health Transportation System

**Typical Flow**

**User**
- User reviews his ride and reports any incident.
- System receives user request.
- Pilot checks the equipment and first-aid and connects it to his motorcycle or bicycle.
- System gets informed of user’s arrival at destination.
- Pilot arrives at the designated drop-off area.
- Pilot on its way to pick up user.
- Pilot accommodates user on the pod and confirms instructions.
- After dropping off user, pilot heads to drop-off area for the ambulance pod.
- Pilot arrives at the designated drop-off area.
- Pilot disconnects ambulance pod and sanitizes it.
- Pilot checks the equipment back into the kiosk.
- System gets informed that equipment is back on kiosk.
- System sends pilot his compensation.
- System sends updated information to the user.
- System gets informed of user pick up.
- System gets pilot feedback.
- Pilot gets compensated.
- System gets informed of user pick up.
- Pilot receives request.
- Pilot receives confirmation of the ride with detailed information.
- At pick-up, receives printed instructions.
- Pilot confirms the pick-up through his phone.
- Pilot and user on their way.
- User gets picked-up and accommodated on the pod.
- User gets ready for pick-up.
- User receives reminder.
- System sends pilot his compensation.
- User receives confirmation of the ride + information.

**System**
- Test runs are performed.
- Pilots enroll.
- Equipment gets installed on designated spaces.
- Communication also for enrollment and training of pilots.
- Communication to generate awareness and explain the service.
- Central dispatch is trained.
- Communication for enrollment and training of pilots.
- If needed, user can communicate with pilot.
- System sends updated information to the user.
- System gets informed of user’s arrival at destination.
- System sends pilot his compensation.
- System gets informed that equipment is back on kiosk.
- System sends pilot his compensation.
- User gets ready for pick-up.
- Pilot confirms the pick-up through his phone.
- Pilot and user on their way.
- User gets picked-up and accommodated on the pod.
- User gets ready for pick-up.
- User receives reminder.
- System sends pilot his compensation.
- User receives confirmation of the ride + information.

**Pilot**
- Potential users learn about the service.
- Users receive information on the service.
- Users sign up.
- Communication to generate awareness and explain the service.
- Equipment gets installed on designated spaces.
- Test runs are performed.
- Training of pilots.
- Pilots database.
- Pilots enroll.
- Potential pilots learn about the service.
- Communication to generate awareness and explain the service.
- Communication to generate awareness and explain the service.
- System receives user request.
- User receives confirmation of the ride + information.
- System allocates an ambulance pod.
- System sends updated information to the user.
- System gets informed that equipment is back on kiosk.
- System gets pilot feedback.
- Pilot receives confirmation of the ride with detailed information.
- Pilot on its way to pick up user.
- Pilot picks up the equipment from local gas station.
- Pilot receives printed instructions.
- Pilot checks the equipment and first-aid and connects it to his motorcycle or bicycle.
- Pilot confirms the pick-up through his phone.
- Pilot and user on their way.
- Pilot disconnects ambulance pod and sanitizes it.
- Pilot checks the equipment back into the kiosk.
- Pilot gets compensated.
- System gets informed of user pick up.
- Pilot receives request.
- Pilot accepts request.
- Pilot picks up the equipment from local gas station.
- Pilot receives printed instructions.
- Pilot checks the equipment and first-aid and connects it to his motorcycle or bicycle.
- Pilot confirms the pick-up through his phone.
- Pilot and user on their way.
- Pilot disconnects ambulance pod and sanitizes it.
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- Pilot confirms the pick-up through his phone.
- Pilot and user on their way.
- Pilot disconnects ambulance pod and sanitizes it.
- Pilot checks the equipment back into the kiosk.
- Pilot gets compensated.
- System gets informed of user pick up.
The main piece of **hardware** is the Ambulance Pod. An attachable single-person ambulance that connects to existing motorcycles and bicycles to carry patients over long or short distances. These pods are distributed through collection and drop-off points, placed on known places in the community, like gas stations, to be used by local trained pilots.

The **software** is the main interface, where users request the service and pilots accepts requests. Being multi-modal – the software works through phone, app, website or texting – allows the system to have a wider reach in the developing world.

The **service** is what connects everything: software, hardware, pilots, doctors, training and maintenance. Based on an intelligent dispatch system, similar to what car sharing services do, it controls the flow of every moving part through every touchpoint.

**The Community Powered Health Transportation System** enables a new network of people to transport patients, lifting the burden off of the existing ambulance systems and helping save many lives. And once in place, this network can also be activated to aid in disaster relief situations.
A transportation research group at the University of Alabama at Birmingham found conventional ambulances cost an average of $1.46 a mile, one 2008 study found the motorbikes can operate for about 18.6¢ a mile.

**The Economics – A Mixed Model:**

**Governments save money:**

**Developing World Governments & NGOs**

**Developed World Companies & Consumers**

**The business community gets involved:**

Examples of possible partnerships:
- Uber (system)
- Lyft (system)
- Thule (hardware)
- Telefonica (cellphone service)
- Maersk (containers and distribution)