Fablab + Lakehub

Team Lakehub +Fablab Winam were handling SDG #3: Ensure healthy lives and promote well-being of all at all times

| 🎚 Difficulté | **Facile** | 🕐 Durée | **2 jour(s)** | 🏷 Catégories | **Électronique, Bien-être & Santé, Machines & Outils** |

| 💵 Coût | **1 USD ($)** |

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Introduction

Today, one of the increasing popular public concerns is human health. Anything else becomes meaningless if one gets sick or dead. This realization became more clearer when covid- became a pandemic and a lot of people know to them loose lives just within a short time. For this reason, people spend a lot of money to keep sound health. Unfortunately, people always find that it is too late to receive serious medical care when things are non-invertible. If early actions can be taken in time then lots of patients can be cured. Body temperature is one of the most vital one among the most notable indexes of the human health especially during this period of pandemic, and it has the advantage of easy access. Moreover, unlike the X-ray, the measurement of body temperature and even heart rate has no effect on human health itself. And that gives us the reason for this;

The project is a self-testing hand wearable gadget for measuring temperature and automatically sending it to specified contacts of e-health care providers using gsm or wifi if such reading has gone beyond the normal threshold while the wearer can always check it using the lcd screen it has. The project which is housed in a wrist-watch-like wearable is suppose to help in getting potential patients for CORONA and other terminal illnesses have a self-tested and the alert can be sent in real time for a quick action to be taken.

The projects hopes to achieve much in the next version of the prototype by including additional sensors to collect more vital data necessary for the diagnosis

Matériaux

Outils

Étape 1 - Brainstorming & Project Selection

At the group forming stage we decided to brainstorm on the possible project ideas before splitting. Out of all the ideas around health, the self-testing gadget was decided on. During brainstorming, the challenges in health which we were struggling to get solutions were; teenage pregnancy, More affordable and easily available PPEs for the health providers in the frontline, People Living With Disability, time management in the hospital to enable more patients to be served within the shortest time, real-time billing challenges
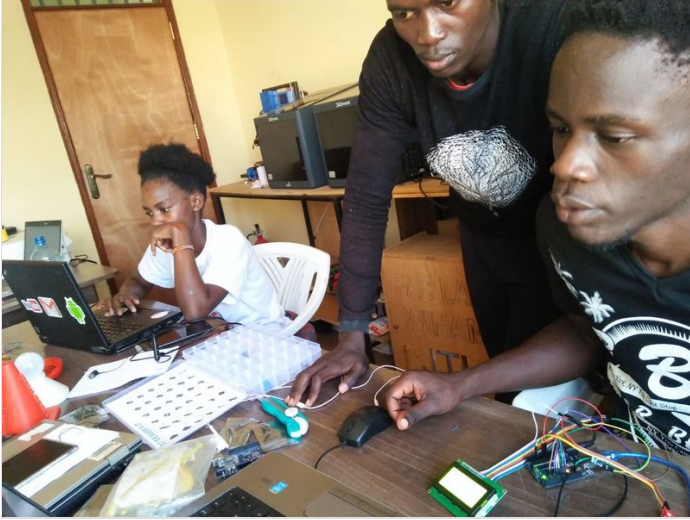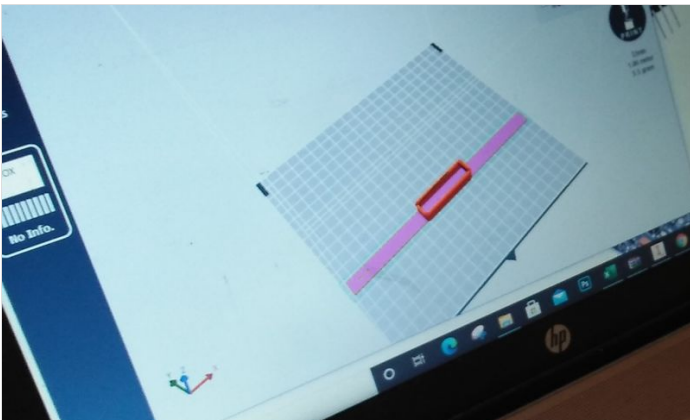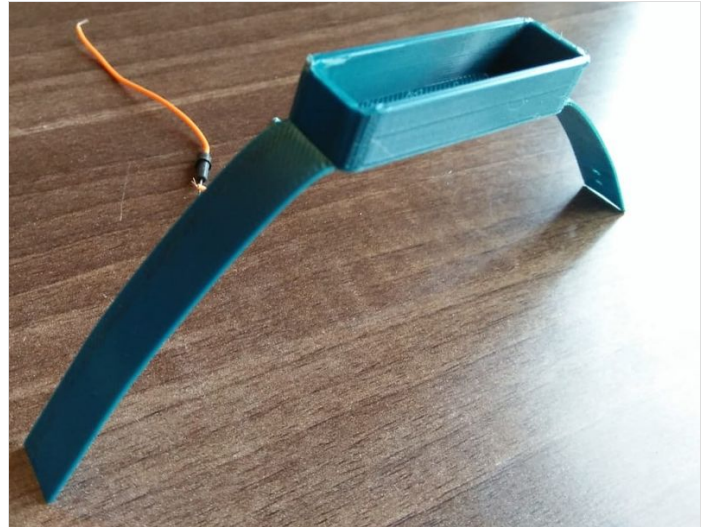

Étape 2 - Designing

Our design has just two major parts which needed designing
- Electronics
- Casing
The designing involved user-centred approach.

Étape 3 - Development

Here, one team was working on electronics and another in deleloping the casing with respect of specifications we agreed on
Under electronics, the following were steps;
- Assembling of materials,
- Identification of various pins and fixing wires on them for both lcd screen and for the Arduino board
- Doing the connections and testing the completeness of circuits
- Loading the code (software)
- See the result through the outputs
For the development of the casing, here are the steps;
- Drafting the design
- Designing using inventor or any other relevant 3d software
- Printing out
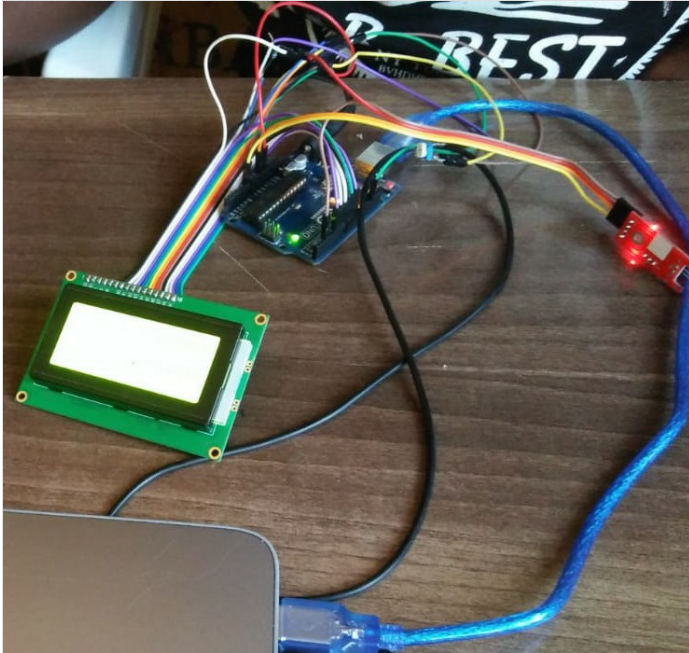
Étape 4 - Assembling and Testing

Putting together the hardware and software as earlier designed or planned.
After assembling, the final test is done to confirm the innovation

Notes et références

J!PIM3 aka Jipime is a swahili word meaning self-testing
List of parts :

1. Tools
- Hot glue gun
- Soldering Iron
- Computer
- 3D Printer
-Scrapper

2. Material
- Sticky notes
- Marker pens
- Glue Stick
- Solder wire
- Filament

3. Electronics components
- Battery
- Wires
- breadboard (proof of concept)
- Arduino UNO (to be replaced by a smaller version)
- LCD Screen (4x16) (to be replaced by a smaller version)
- Temperature sensor (Potentiometer)
- Heart rate sensor
- Variable resistor
- Jumper wire (to be replaced by other wires)
- Power supply (to be replaced by a lithium coin cell)

Other resources
- Internet