WorldClock

A clock with a round display and stylish design for office or home usage.

The challenge

Lemberg's hardware engineering team was challenged with strict ("on the edge") design requirements for the device casing. The project required incorporating a round display with a specific communication interface and custom UI implementation.

Delivered value

The Lemberg team delivered a finished prototype that was near 1:1 to the original sketches and could be used for further market research and a fundraising campaign. The client valued cooperation with a single team of hardware and software engineers, mobile developers and testers.

The process

Initially, the client provided us with a product idea, industrial design sketch and mobile app UI/UX.

Unlike software projects, hardware development should be executed in a specific order; mistakes during the initial phases are quite expensive to fix later on (or even not possible to fix).

We started with electrical components selection. Round displays seem to be easy and obvious; however, it was not easy to find a display of such size (3.4 inches) with an ultrathin bezel display and no square-frame around it.

At that point, we started two parallel streams of engineering: mechanical design and software development (firmware, mobile app).

During the mechanical design phase, product design was slightly adjusted to fit the electrical components and prepare the device case for 3D printing. Several design iterations were required to get to the point where all components fit the desired internal space.

Once printed, all plastic parts and electrical components were assembled to make sure they all fit and work as expected. All plastic parts were refined and painted to achieve the proper look and feel of the product and then reassembled. By that time, the mobile app and firmware were ready, and the prototype was tested as a whole.
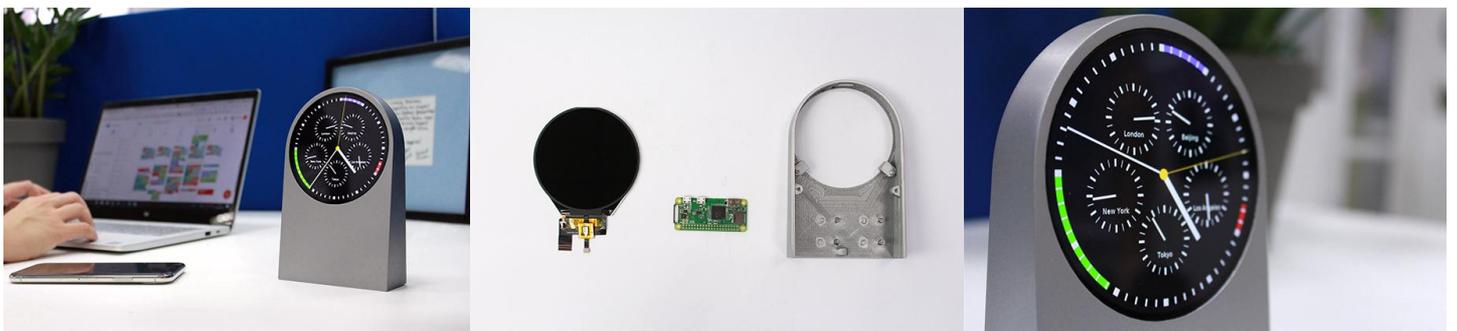
Services

Mechanical design
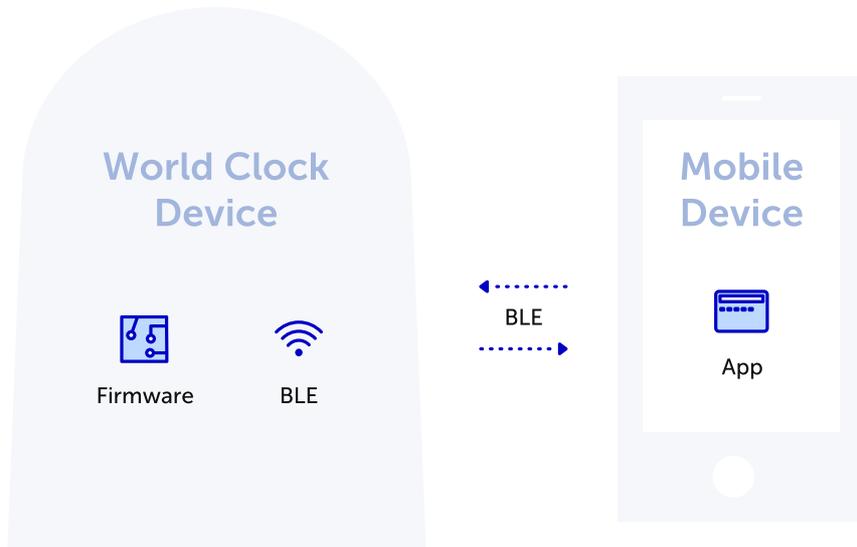Electrical design
Firmware developement
Prototype assembly

Industry

Consumer electronics

Technologies

SolidWorks
Linux
Qt
Swift

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How it works

World Clock Device
Firmware | BLE

BLE

Mobile Device
App

About Lemberg Solutions

Lemberg is a technology consulting, software & hardware engineering company. Startups and established businesses rely on our industry expertise to build new products and deliver digital transformation.

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