



ROLLING PAWN - JOURNEY

HOW DID WE BUILD AN AFFORDABLE DIGITAL CHESS BOARD

ThoughtWorks®

Speaker



 @jchakrabarty

 @jchakrabarty

Jaydeep works Capability Development lead for **Thoughtworks India**. For the last 15 years he has played multiple roles like Fullstack Developer, worked as Infradev orchestrating infrastructures for projects. He also worked as XD and VD, creating interaction and experiences for clients. As a QA, he has worked on tools like Webdriver(Various bindings), Taiko, Puppeteer, RestAssured, Karate, Appium, Jmeter, Gatling, Locust, Taurus etc. He is a Certified Ethical Hacker, and works as an Evangelist in software security.

Apart from this, he has been contributing to the open source community for the last 15 years. Among the various open source projects across tech-stacks that he has contributed to are Talisman, OpenStack projects, Report-mine, Taiko, etc.



WHY A DIGITAL CHESS BOARD?

WHAT IS A DIGITAL CHESS BOARD

PHYSICAL, NOW DIGITAL

A Technology that converts moves made on physical chess boards to digital format. These are also used for learning and recording games. On bigger chess tournaments, these are used to stream Grandmaster games



*Can we build an affordable one,
to help players?*



INTRODUCING



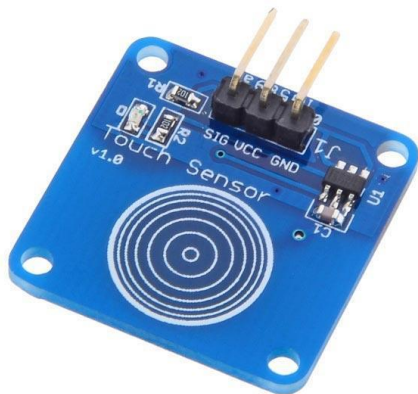
AN AFFORDABLE DIGITAL CHESS BOARD





HOW DID WE MAKE IT AFFORDABLE

SENSORS COST MORE, CAN THIS BE REPLACED?



8 x 8 - Push button Matrix

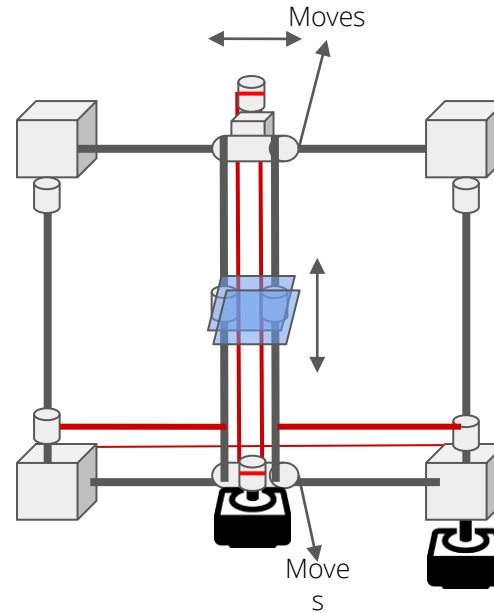




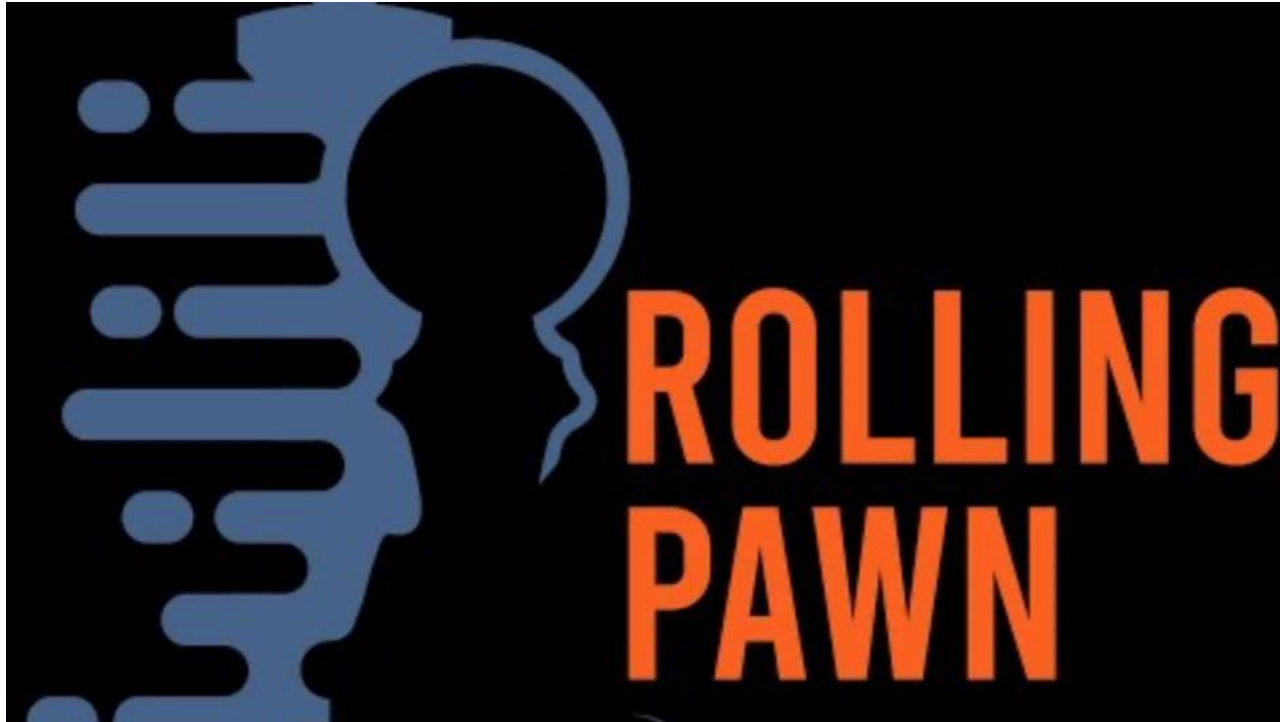
THIS HAD A PROBLEM, BECAUSE

WE WANTED TO GO BEYOND DIGITAL CHESS BOARD

We want to create a intelligent robotic arm that, plays with the player

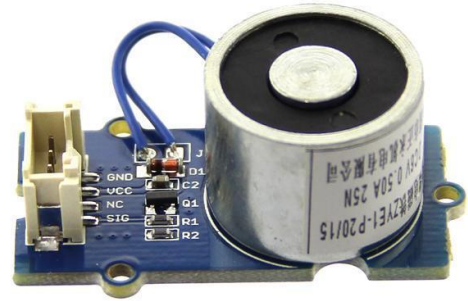


AND WE BUILT THE DESIGN AS WELL



BACK TO THIS

The electromagnet was not able to hold the pieces



THE FINAL SOLUTION



RESISTIVE TOUCH PANEL



AN OVERALL WORKING SYSTEM



SERVER

Runs the chess engine and serves other game related APIs

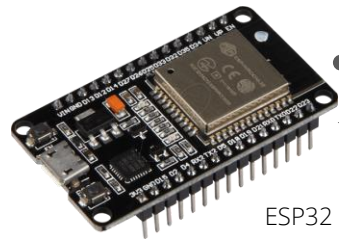


User Interface

The user interface that shows real times chess moves from the user and the chess portal



socket.io

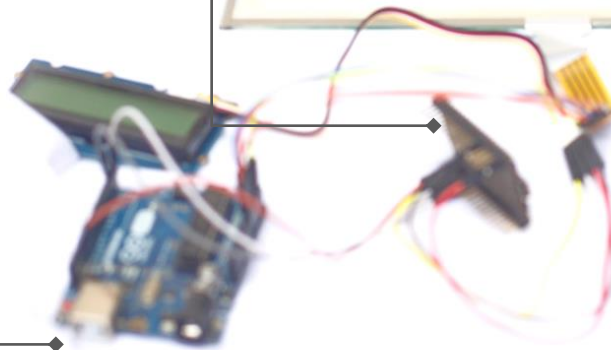


ESP32

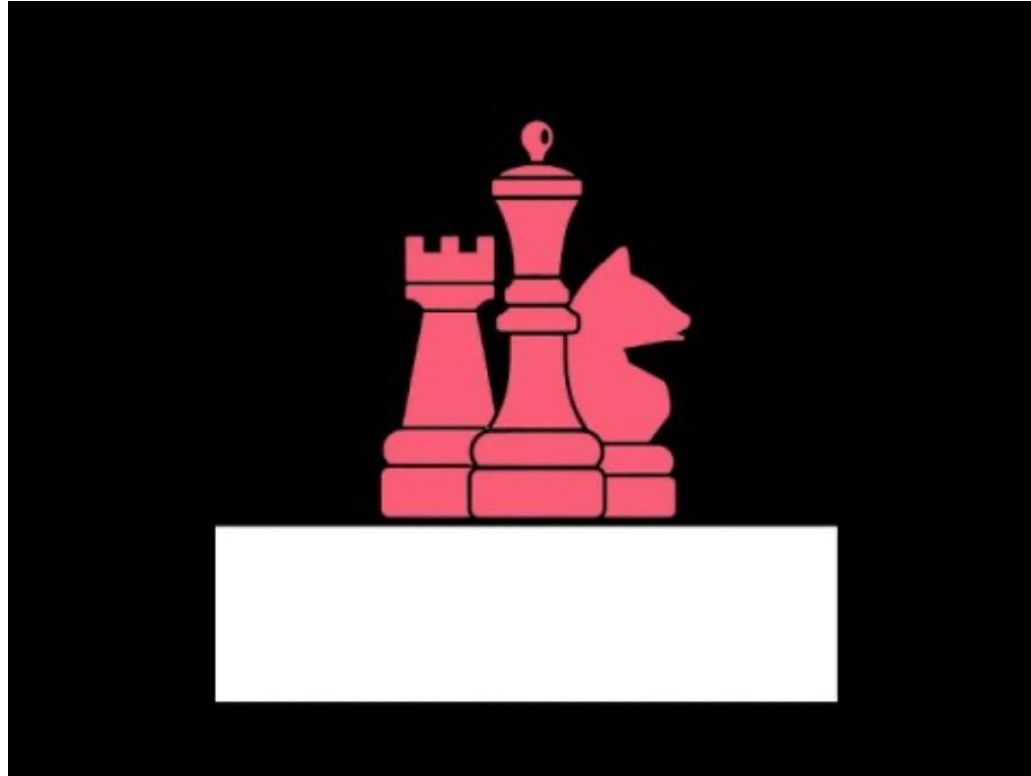
Fetches data from Arduino UNO and sends to server



Arduino UNO
Captures data from the Resistive touch panel about chess moves and control panel actions

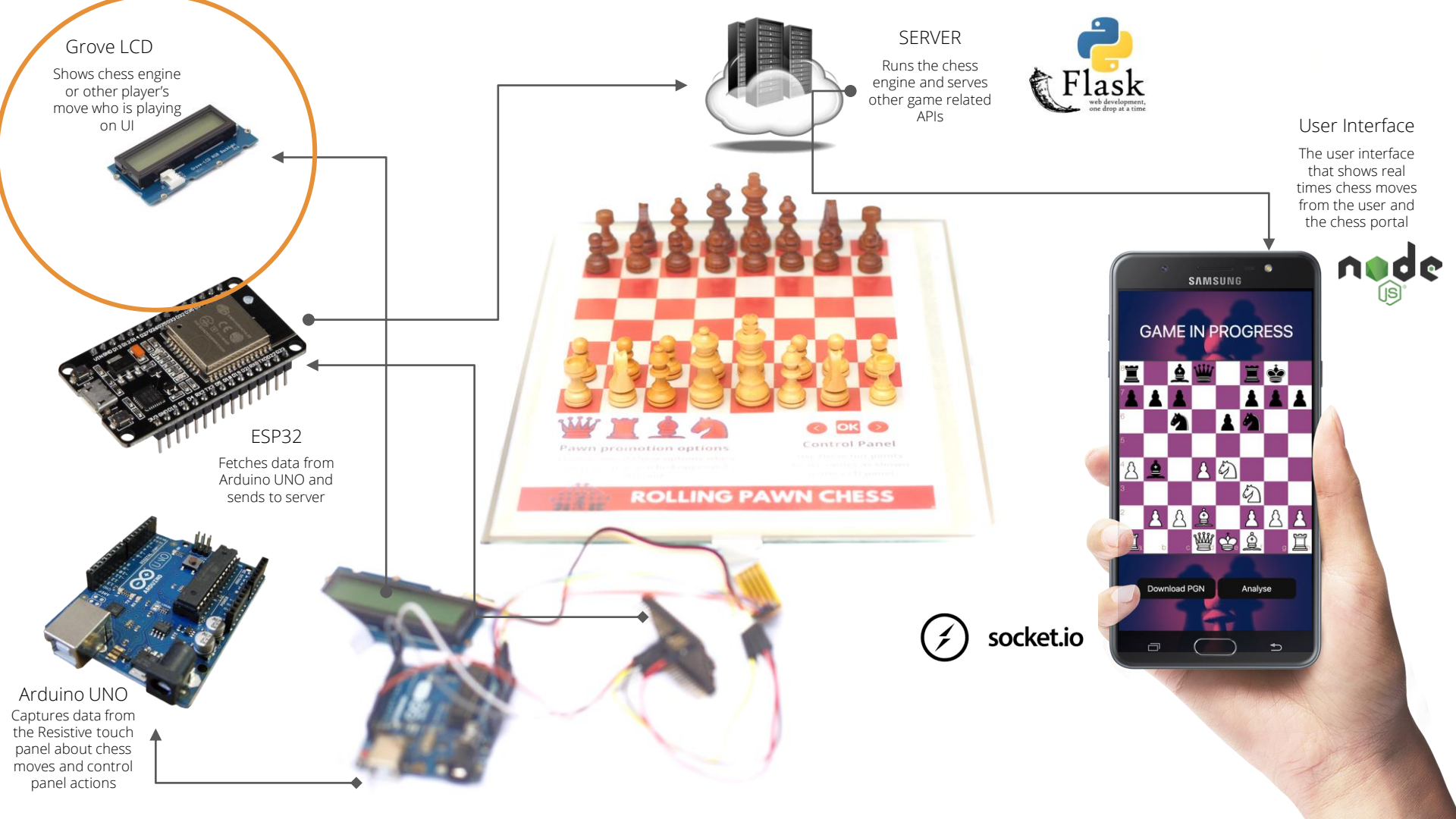


THIS IS WHAT WE HAD

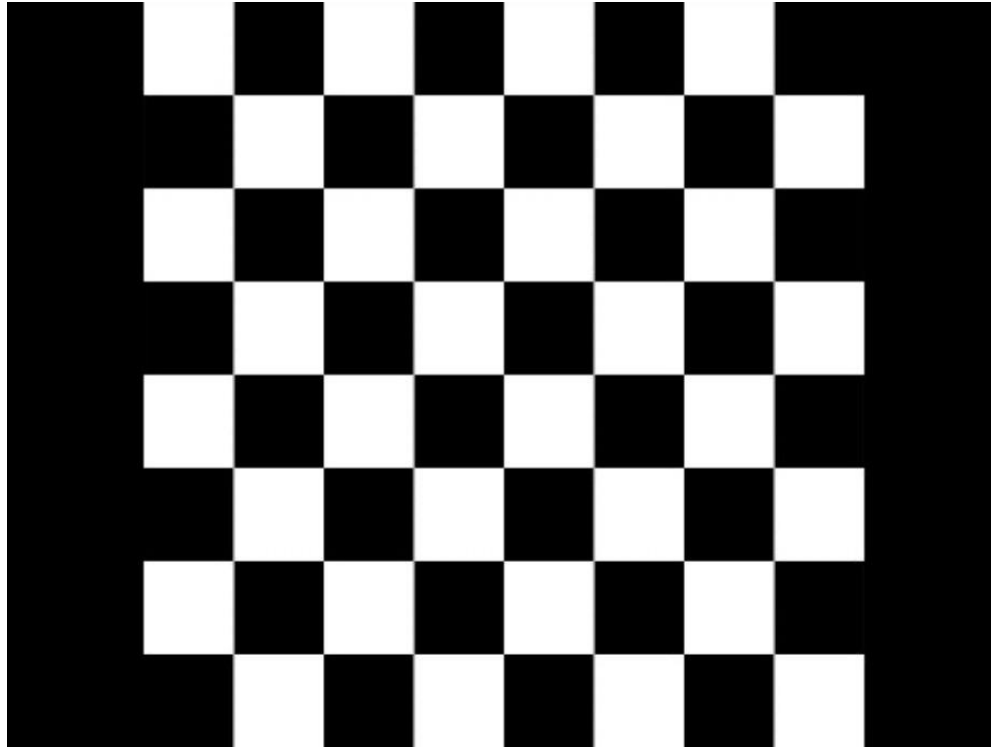




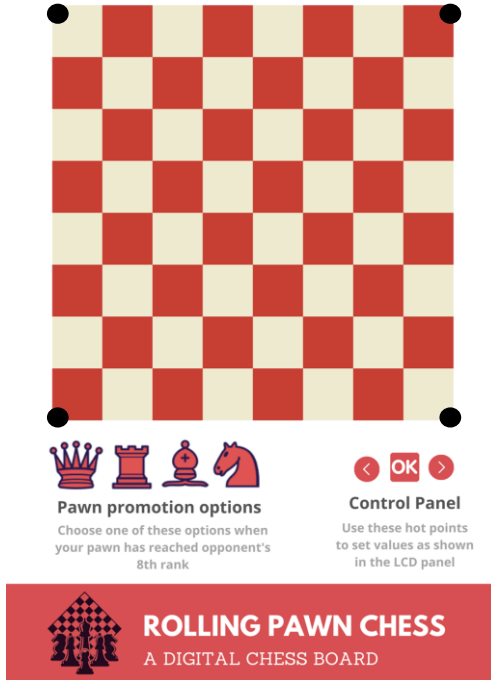
WHAT IF I DON'T WANT TO USE A
LAPTOP OR MOBILE ?



INTEGRATED THE LCD



IT'S TIME TO UPGRADE THE BLACK AND WHITE BOARD



< OK >

Control Panel

Use these hot points
to set values as shown
in the LCD panel

DEMO





I THINK YOU FIGURED IT OUT ..

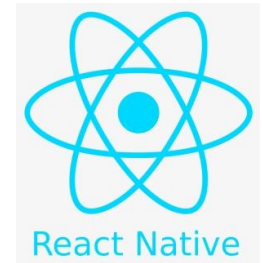
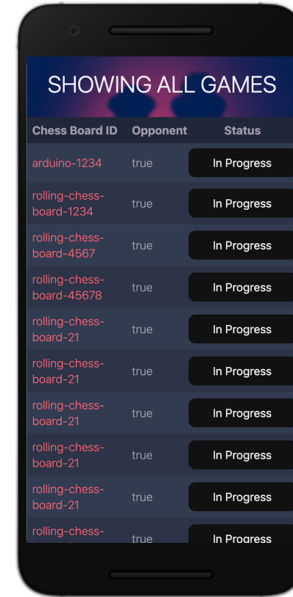
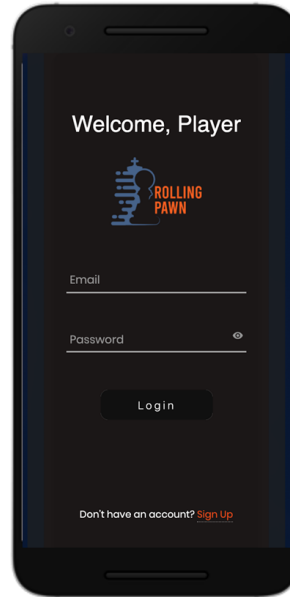
IT'S ACTUALLY THE PANEL






WHERE ARE WE TODAY?

ADDING A NATIVE APP



SAGAR SHAH, CEO - CHESSBASE INDIA





HOMEHINDI NEWSONLINE SHOPPLAYERSCALENDAR


Creating a DGT like chess board for just Rs.3,000

by Jaydeep Chakrabarty · 28/04/2020

A DGT chess board is one which you can not only connect to a chess clock but a computer chess program. Each of the moves you make on the board are automatically stored in the chess software on your machine. Currently such chess boards are created by DGT Projects, a company based in the Netherlands that the state of the art technology in manufacturing these chess sets. However the cost of the board is quite high - close to Rs.35,000. Hence, a team of developers from Bangalore, working for a US based company named Thoughtworks, have come up with a project of creating their own DGT like chess board. They have named it Rolling Pawn and the boards shall be available for as low as Rs.3,000.


The Rolling Pawn - Making Digital Chessboard affordable

By Jaydeep Chakrabarty



THE ROLLING PAWN | MAKING DGT CHESS BOARD AFFORDABLE

DGT chess e-Boards are accurate and fast chess move input devices for your computer. They are used to register and record games and with that you will be able to stream live games, play with opponents and analyse your games. This is a great tool for chess players to learn and improve their game. It can also help beginners to follow chess books and learn, because analyzing games from




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Thoughtworks Team To Bring Out DGT Like Chess Board Called Rolling Pawn

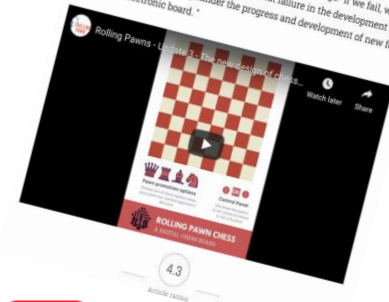
by Editor Team · May 20, 2020

QUICK OVERVIEW



Pearls from Lake Constance - the chess magazine

The next board with self-drawing figures has already been announced. A team of developers in the Indian city of Bangalore is working on the project name "Rolling Pawn" to create a cheap alternative to the DGT board. As an extra to the board, a robot arm based on the plotter principle is planned that can pull the figures. Developer Jaydeep Chakrabarty sees potential mechanical errors as a challenge: "If we fail, we have at least tried and can learn from it. A first failure in the development of a robot arm will not generally hinder the progress and development of a new feature of our electronic board."





THE TEAM



Athul PR
Developer and
Mechanical Engineer



Ankon Chakraborty
Developer



Kanishka Kuksal
Developer and
Electrical Engineer



Dheeraj Pundir
Developer



Nipun Kanade
Developer



Suhas Vishwanath
Developer



Jaydeep Chakraborty
Developer and
Product Owner



Harinee Muralinath
Special thanks to
Harinee for continuous
support and ideas

THANK YOU

JAYDEEP CHAKRABARTY

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