**Methodology**

The aim of this project is to calculate the status of the device, error codes and maintenance time by extracting data from existing microcontrollers in smart home devices. The following steps were followed to achieve the project goal.

Tools and Technologies Used:

Programming Language : **Python** programming language was chosen for its flexibility and wide library support.

Database : Firebase cloud-based data storage and real-time data synchronization.

IDE: Thonny IDE is preferred because its interface is simple and understandable.

Analysis and Planning:

At the beginning of the project, the types of data coming from each device, the format of error codes and how to calculate maintenance times were analyzed. As a result of this analysis, different technical paths such as flowcharts, psudocodes and algorithms were followed.

agile methodology was considered for the project developed, the project was divided into sprints and a dynamic mindset was adopted for each sprint, and it was prepared with team awareness by distributing different tasks to different people.

Algorithms and Pseudo Codes:

-Ahmetcan Buruş

-Ömer Demirel

Flowcharts:

-Veysel Taşdemir

-İlayda Uzun