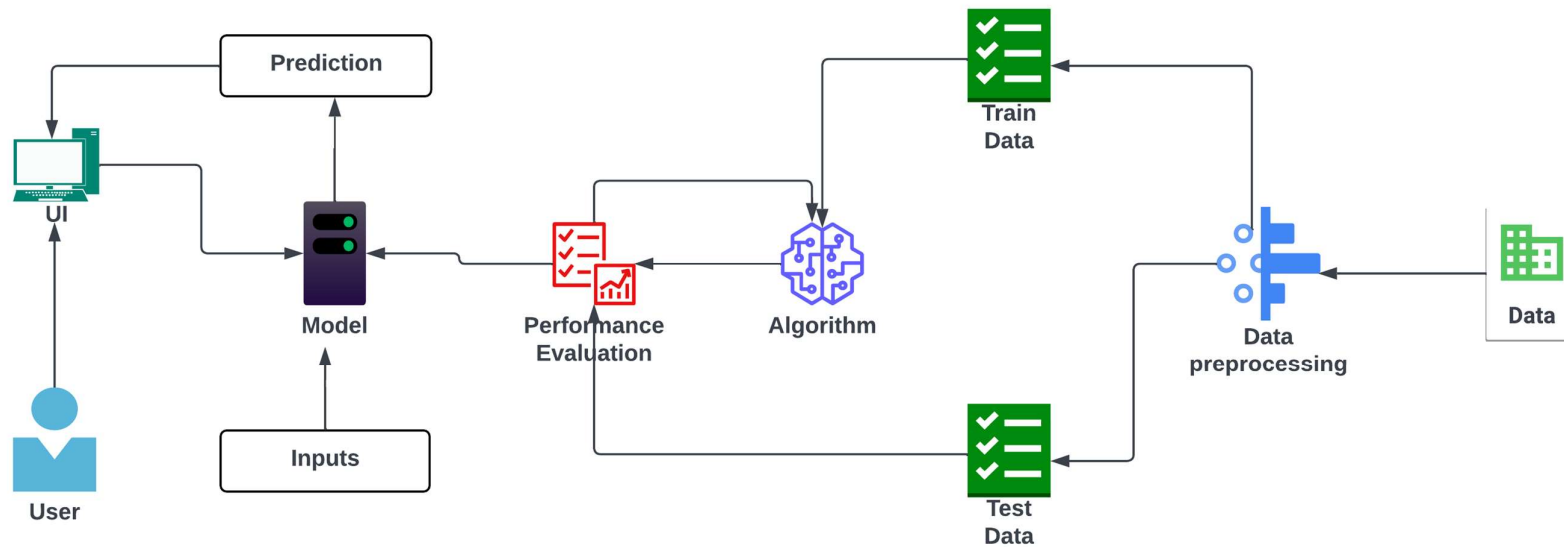


**Project Design Phase**  
**Technology Stack (Architecture & Stack)**

Date	18 November 2023
Team ID	592148
Project Name	Smart Home – Temperature Prediction
Maximum Marks	4 Marks

**Technical Architecture:**



**Table-1 : Components & Technologies:**

S.No	Component	Description	Technology
1.	Home Page	The homepage includes a navigation menu for easy access to different sections.	HTML& CSS
2.	Contact Page	Users can reach out for inquiries or support.	HTML& CSS
3.	Prediction Page	The prediction page includes input fields for various environmental factors, such as CO2 levels, humidity, lighting, etc.	HTML& CSS
4.	Prediction Algorithm	The system incorporates a predictive model to generate room temperature predictions based on the provided input data.	Python, Numpy, Pandas, Scikit-learn, Matplotlib, Scipy, Pickle-mixin, seaborn
5.	Resulting Display	System displays the predicted room temperature prominently on the prediction page.	Python, Flask, pickle
6.	Responsive Design	UI is designed to be responsive, providing a positive user experience on various conditions.	HTML,CSS, Js & Python
7.	Navigation	Navigation menu allows users to easily move between different pages.	HTML,CSS, Js & Python
8.	User Interaction	Users can interact with the system by inputting data, submitting the form, and receiving predictions.	HTML,CSS & Js
9.	Machine Learning Model	To predict indoor temperature using different parameters.	Python, Numpy, Pandas, Scikit-learn, Matplotlib, Scipy, Pickle-mixin, seaborn

**Table-2: Application Characteristics:**

S.No	Characteristics	Description	Technology
1.	User interface	The user interface provides an intuitive and responsive platform for users to input environmental parameters and receive predictions for room temperature in a smart home.	HTML, CSS, VS Code, GitHub
2.	ML model	The machine learning model predicts room temperature based on various environmental factors in a smart home.	Python, Numpy, Pandas, Scikit-learn, Matplotlib, Scipy, Pickle-mixin, seaborn, jupyter-notebook, anaconda navigator

3.	Integration	The system seamlessly integrates Flask web framework with a machine learning model, allowing users to predict and control room temperature in a smart home environment.	Flas & Spyder
4.	Availability	The complete project, including codes and the machine learning model, is available on GitHub for easy access and collaboration.	GitHub
5.	Scalability	The system demonstrates scalability by efficiently handling user interactions and data processing, ensuring its adaptability to increased user load or future feature expansions.	GitHub