**Project Design Phase-I**
**Proposed Solution**

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| Date | 1 November 2023 |
| Team ID | Team-592148 |
| Project Name | Project - Smart Home – Temperature Prediction |
| Maximum Marks | 2 Marks |

**Proposed Solution:**

| S.No. | Parameter | Description |
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| 1. | Problem Statement (Problem to be solved) | Smart Wi-Fi thermostats have progressed beyond basic temperature regulation in today's smart homes. They now allow for remote comfort control and adjust to the actions of the occupants. The task at hand involves leveraging this data to develop prediction models for room temperature and heating/cooling requirements, which are essential for optimizing building HVAC systems. The initiative aims to promote sustainability and energy efficiency objectives by addressing the pressing global demand for accurate temperature prediction. |
| 2. | Idea / Solution description | Predictive Temperature Control leverages advanced algorithms and sensor data to anticipate fluctuations in room temperature. It optimizes energy use, assuring comfort and economy, by proactively altering HVAC settings. This cutting-edge technology is essential to the field of sustainable building management since it lowers operating costs while encouraging inhabitants to live in a more comfortable and environmentally friendly environment. |
| 3. | Novelty / Uniqueness | Predictive temperature control is new because it makes use of cutting-edge algorithms and real-time sensor data to anticipate temperature changes and enhance HVAC systems. This innovative method transcends traditional thermostats and is a first in the field of energy-efficient building management. |
| 4. | Social Impact / Customer Satisfaction | This program, which addresses the need for precise temperature prediction worldwide, has the potential to have a major social impact. By guaranteeing comfortable living circumstances, lowering energy costs, and supporting environmental objectives, it improves consumer satisfaction. Locals profit from a |

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| | | more economical and environmentally friendly setting. |
| 5. | Business Model (Revenue Model) | Multiple revenue streams may be included in the predictive temperature control business model. These might include leasing the algorithms, selling the technology to HVAC manufacturers, or providing building management firms with a service. Additionally, data analytics and maintenance services can bring in money. |
| 6. | Scalability of the Solution | Predictive temperature control has great scalability. It can be used in a variety of buildings, including residential and business ones. The technology is a flexible and adaptable solution that can be easily scaled to suit the needs of a wider market as the need for energy-efficient solutions grows. |