



National Institute of Technology Jamshedpur



# Smart AC Management for Campus using IoT



# Smart AC Management using IoT



- In a Central AC system, like that present in our LHC, the controls are present only centrally.
- The AC control is not accessible with the students and there is no way to control the temperature of the AC
- The AC remains on even in absence of students and during cold rainy days where it becomes uncomfortable
- The project aims to fix this and add more features by using IoT
- The project will enable full control of the AC through mobile app
- Central monitoring of various parameters like classroom temperature and Power consumption
- Smart mode for auto setting the AC to a comfortable temperature



# Implementation using IoT





# Image References



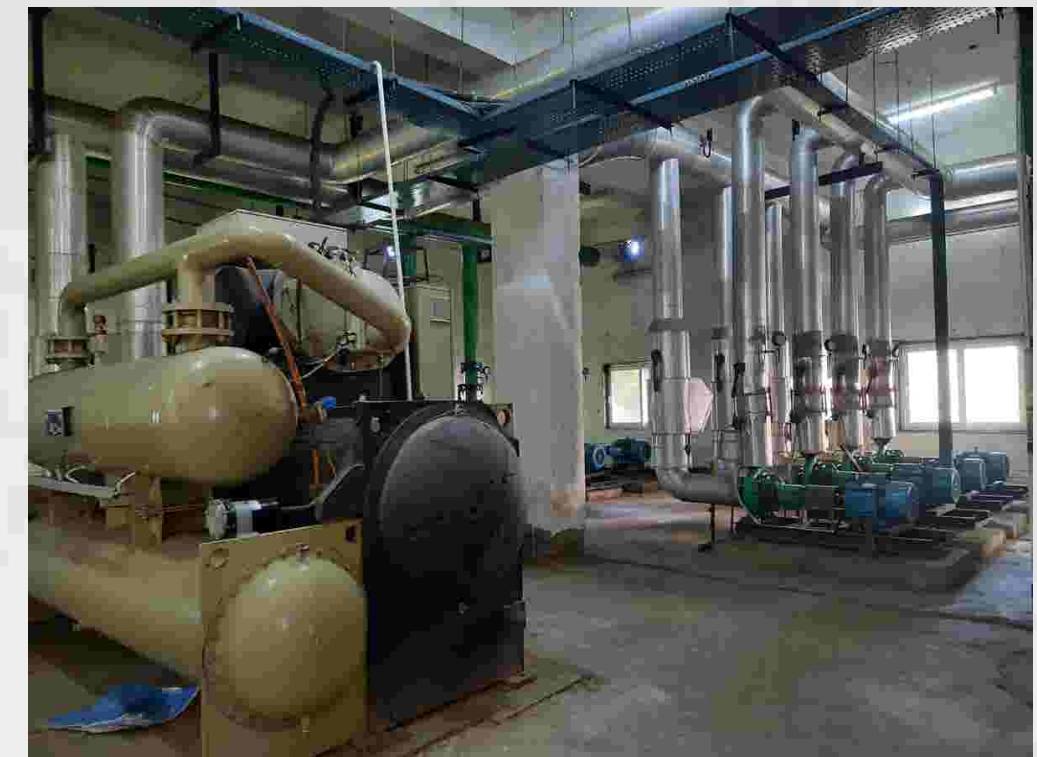
- Central control unit present in the AC building



- AHU room DJLHC



- Control system at AC building





# Objective of the project



## Smartphone

Developing an app for controlling temperature and power of AC



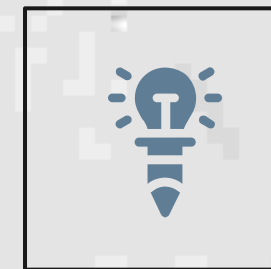
## Schedule setup

A schedule can be loaded and updated regularly that can prevent power wastage by powering the AC off during absence.



## Central Management

Provide various data like temperature and power consumption to monitor and manage the AC



## Smart Mode

Smart Mode eliminates the hassle of continuously adjusting temperature by auto adjusting comfortable



# Methodology

1

## Smartphone app

An app will be developed that contains all the features for controlling AC

- Power on/off Control
- Temperature Control
- Smart mode for automatic temperature adjustment

2

## Schedule Setup

- A Schedule can be fed in the app and updated regularly in order to stop power wastage when classrooms are empty
- If a class is cancelled it can also be updated in the schedule and AC will turn-off automatically in that slot

3

## Central Management

- The system collects various data like temperature, power consumed etc. in a database
- The data can be used for monitoring and refining various aspects

4

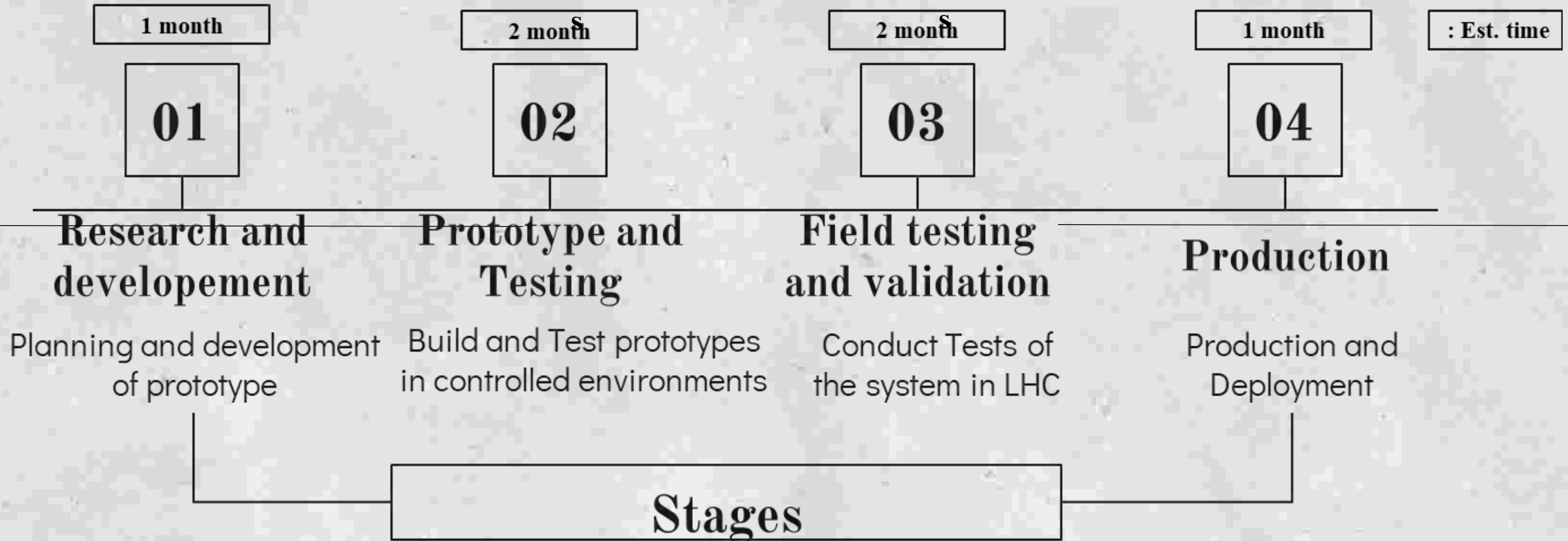
## Smart Mode

- To allow hassle free control the app has smart mode that adjusts the temperature of the AC automatically through live temperature data
- A temperature and humidity sensor outside the rooms measures the ambient temperature and using intelligent lookup table selects the most comfortable temperature





# Timeline





# Budget Details

Sno.	Areas	Price(INR)
1	Components and Kits	22,000.00
2	Lab Equipment and Machines	12,000.00
3	R & D and Prototype Development	8,000.00
4	Workshop and Required Trainings	3,000.00
5	Miscellaneous	5,000.00
	Total Budget :	50,000.00



# Details of Project Group



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## Mentorship Details

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