

# Call for Patent Application

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Please mention all the names of Inventors, no further changes in the name of inventors will be entertained.

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\* Indicates required question

Email \*

ichbinsoham@gmail.com

Email of Faculty Mentor/Supervisor \*

anuradha.thakre@pccoe pune.org

Do you want to showcase this Idea/Project in the PCCoE Kshitij 2025? \*



Yes



No

Name of Inventor/s (Student/Faculty/Researcher) \*

Please mention all the names of Inventors separated by comma (,)

No further changes in the name of inventors will be entertained.

Enter the Faculty Name First

Dr.Anuradha Thakre,Soham Devidas Mhatre,He

Contact Number (Mentioned numbers of all Inventors separated by comma (,) \*)  
Contact number of Faculty must be mentioned first.

9405789999,8087560491,7620137845,7385628262,7378360027,9405789999

Name of The Department \*

CSE(AI&ML)

Title of Invention \*

Smart Printing Solution with Dynamic Queuing

Project Completion Status \*

- ☐ Prototype Ready
- ☒ Idea Stage
- ☐ Partially Implemented
- ☐ Completely Implemented

Is research paper on same idea is published ? \*

- ☐ Yes
- ☒ No

## Field of Innovation \*

Smart Printing & Workflow Automation

## Innovativeness In the Project (Describe in short) \*

Our innovation in Automated Print Management Systems for Educational and Public Service centers include :

**Middleman-Free Direct Processing** – This solution eliminates the traditional workflow where operators manually download PDFs and initiate print jobs. The system automates file processing, reducing both the time delay and potential for human error in document handling.

**Automated Queuing & Load Balancing** – The system addresses the common issue of uneven printer utilization by implementing intelligent job distribution. A control dashboard allows operators to designate which printers participate in the automation pool, after which the system algorithmically distributes incoming jobs to optimize throughput. The implementation includes optional priority queuing functionality for premium service tiers.

**Integrated Print Job Customization** – To streamline finishing processes, the system incorporates printed guide markers for post-processing operations. These subtle indicators show precise locations for stapling or hole-punching, improving consistency in manual finishing tasks.

**Real-Time Printer Monitoring** – A central dashboard provides operators with continuous visibility into printer status and job progress. This monitoring capability enables improved resource management and more accurate customer communications regarding job completion times.

**Windows SDK Integration** – The implementation leverages Microsoft's Windows SDK and printing APIs for reliable job submission and printer management. This approach ensures compatibility with existing hardware infrastructure while providing robust system control.

**WhatsApp-Based Print Handling** – Recognizing the prevalence of WhatsApp usage in India, the system implements a document submission channel through this platform. Users submit documents and specifications via WhatsApp, with files temporarily stored on the local processing server and automatically deleted after printing to maintain privacy.

**QR Code-Based Temporary WiFi Access** – To address connectivity challenges in crowded environments like educational institutions, the system provides temporary access to a dedicated local network. Users scan a QR code to gain time-limited WiFi access, facilitating reliable document uploads regardless of public network congestion.

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