

**KARNATAKA STATE COUNCIL FOR SCIENCE AND TECHNOLOGY**

*Indian Institute of Science campus, Bengaluru*

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Website: www.kscst.iisc.ernet.in/spp.html or www.kscst.org.in/spp.html

**46th SERIES OF STUDENT PROJECT PROGRAMME**

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|  | **Name of the College: Vidyavardhaka College of Engineering** |
|  | **Project Title:** **Blockchain in IoT Enabled Smart Home Network** |
|  | **Branch: Information Science and Engineering** |
|  | **Theme (as per KSCST poster): Cyber Security** |
|  | **Name(s) of project guide(s):**   1. **Name: Prof. VIDYASHREE K P**   **Email id:** [**vidyashreekp@vvce.ac.in**](mailto:vidyashreekp@vvce.ac.in)  **Contact No.: 9591813306** |
|  | **Name of Team Members:**    **Name: MANOJ M USN No.: 4VV19IS045**  **Email id:** [**manojmanjunath1425@gmail.com**](mailto:manojmanjunath1425@gmail.com)  **Mobile No: 9741626527**    **Name: DARSHAN V**  **USN No.: 4VV19IS019**  **Email id:** [**darshanv18mar@gmail.com**](mailto:darshanv18mar@gmail.com)  **Mobile No.: 8861950654**    **Name: MOHAN PRAKASH V**  **USN No.: 4VV19IS050**  **Email id:** [**mohanprakashv2000@gmail.com**](mailto:mohanprakashv2000@gmail.com)  **Mobile No.: 6363691863**  **Name: BHARATH M**  **USN No.: 4VV19IS013**  **Email id:** [**marigowda2bharath@gmail.com**](mailto:marigowda2bharath@gmail.com)  **Mobile No.: 9108081730** |
|  | **Team Leader of the Project:**  **Name: Manoj M**  **USN No.: 4VV19IS045**  **Email id:** [**manojmanjunath1425@gmail.com**](mailto:manojmanjunath1425@gmail.com)  **Mobile No.: 9741626527** |
|  | **Processing Fee Details:**  **Mode of Payment:** UPI, Phonepay  **UTR number:** 303846776787  **Transaction ID:** T2302071055039010197867  **Sender name:** Manoj M  **Date of payment:** 07-02-2023 |
|  | **Date of commencement of the Project: November-2022** |
|  | **Probable date of completion of the project: June-2023** |
|  | **Scope / Objectives of the project:**   * Design of a smart home architecture using Consortium Blockchain. * Designing a working prototype of a Smart Home Mobile App for the proposed architecture. * Implementing hardware design for a simple secure smart home architecture by utilizing commonly available IoT devices to evaluate. |
|  | **Methodology:**  A simplistic model to implement consortium blockchain is created in which IoT devices act as the nodes. The pre-selected nodes (IoT devices) by the home owner are now participating in the block creation and consensus. The senser nodes (SeNs) communicate with each other through a mesh network topology along with the super node (SN) which perform as a peer to peer (P2P) server to broadcast the blocks to other SeNs and participating in the mining.  Flow chart |
|  | **Expected Outcome of the project:**  Providing appropriate and simplified solutions for smart homes using Blockchain to reduce scalability and security issues and also improve confidentiality, integrity and availability. |
|  | **Is the project proposed relevant to the Industry / Society or Institution: Yes** |
|  | **Can the product or process developed in the project be taken up for filing a Patent: No**  **Prior Art search done: No** |
|  | **Budget details:**   |  |  | | --- | --- | | **Budget** | **Amount** | | a) Materials / Consumables   * Bread Board –> 3 X 120 = 360 * Jump wires –> 1 X 300 = 300 * ESP32 –> 5 X650 = 3250 * LCD Screen –> 1 X 400 = 400 * Relay (4 Channel) –> 1 X 300 = 300 * Fan –> 1 X 200 = 200 * LED’s –> 1 X 50 = 50 * Temp Sensor –> 1 X 300 = 300 * Buzzer –> 1 X 200 = 200 | 5360.00 | | b) Labor | 1000.00 | | c) Travel | 1000.00 | | e) Miscellaneous   * Blockchain Platform | 3000.00 | | **Total** | 10,360.00 | |
|  | **Any other technical details: No** |
|  | **SPP Coordinator:**  **Name: Dr. G B KRISHNAPPA**  **Email id:** [**gkb@vvce.ac.in**](mailto:gkb@vvce.ac.in)  **Contact No.: 9243528200** |

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| **Name of the Project Guide:** Prof. Vidyashree K P | **Name of the HOD:** Dr. A B Rajendra |
| **Email id:** [vidyashreekp@vvce.ac.in](mailto:vidyashreekp@vvce.ac.in) | **Email id:** [abrajendra@vvce.ac.in](mailto:abrajendra@vvce.ac.in) |
| **Contact No.:** 9591813306 | **Contact No.:** 9480204423 |

**DECLARATION**

We, the project team hereby declare that the details enclosed in the project proposal (Title of the Project: **Blockchain in IoT Enabled Smart Home Network**, Branch:  **Information Science and Engineering**, College: **Vidyavardhaka College of Engineering**) are true and correct to the best of our knowledge and belief and we undertake to inform KSCST of any changes there in the project title, students name will be intimated immediately through project guide. In case any of the above information is found to be false or untrue or misleading, we are aware that we may be held liable for it. We hereby authorize sharing of the project information with this project proposal with the Karnataka State Council for Science and Technology, Bengaluru.

We are aware that the project team must exhibit / demonstrate the project in the nodal centre and interact regarding project with the experts and to exhibit the project in the State Level Seminar and Exhibition (if selected). If the student team fails to attend the evaluation in nodal centre or fails to attend the State Level Seminar and Exhibition, the supported project amount will be returned to KSCST.

We also hereby, enclose the endorsement form to KSCST, Bengaluru.

**Name of the students with USN No. Signature with date**

1. Manoj M (4VV19IS045)

2. Darshan V (4VV19IS019)

3. Mohan Prakash V (4VV19IS050)

4. Bharath M (4VV19IS013)

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| --- | --- |
| **(Name & Signature of Project Guide with Seal)** | **(Name & Signature of HOD with Seal)** |
| **Email id:** [vidyashreekp@vvce.ac.in](mailto:vidyashreekp@vvce.ac.in) | **Email id:** [abrajendra@vvce.ac.in](mailto:abrajendra@vvce.ac.in) |
| **Contact No.:** 9591813306 | **Contact No.:** 9480204423 |

**ENDORSEMENT**

This is to certify that 1) Mr. Manoj M, 2) Mr. Darshan V 3) Mr. Mohan Prakash V, 4) Mr. Bharath M, are bonafide student(s) of Department of Information Science and Engineering the degree program of our institution. If the project proposal submitted by these students under the 46th series of Student Project Programme is selected by KSCST, we will provide the requisite laboratory / Computer / infrastructure support in our college / Institution. Further we also take necessary steps to see that the project team will exhibit / demonstrate their project in the nodal centre and in the State Level Seminar and Exhibition (if selected). If the student team fails to send the completed project report or fails to attend the evaluation in nodal centre or fails to attend the State Level Seminar and Exhibition, the supported project amount will be returned to KSCST.

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| **(Name & Signature of  Project Guide with Seal)** | **(Signature of HOD with Seal)** | **(Signature of the Principal with Seal)** |
| **Email id:** [vidyashreekp@vvce.ac.in](mailto:vidyashreekp@vvce.ac.in) | **Email id:** [abrajendra@vvce.ac.in](mailto:abrajendra@vvce.ac.in) | **Email id:** [principal@vvce.ac.in](mailto:principal@vvce.ac.in) |
| **Contact No.:** 9591813306 | **Contact No.:** 9480204423 | **Contact No.:** 9945650016 |

**DETAILS OF PROCESSING FEES MADE THROUGH   
NEFT / UPI PAYMENT**

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| --- | --- | --- |
| 1. TITLE OF THE PROJECT | : | Blockchain in IoT Enabled Smart Home Network |
| 1. NAME OF THE TEAM LEADER | : | Manoj M |
| 1. EMAIL ID | : | [manojmanjunath1424@gmail.com](mailto:manojmanjunath1424@gmail.com) |
| 1. CONTACT MOBILE NO. | : | 9741626527 |

**PAYMENT MADE DETAILS**

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| 1. BANK REF. NO. / UTR NO. / UPI No. (12 digits) | : | 303846776787 |
| 1. TRANSACTION ID | : | T2302071055039010197867 |
| 1. NAME OF THE SENDER / ACCOUNT HOLDER and CONTACT NUMBER | : | Manoj M  9741626527 |
| 1. NAME OF THE BANK | : | State Bank of India |
| 1. PROCESSING FEES | : | Rs. 1000/- |
| 1. DATE OF PAYMENT MADE | : | 07-02-2023 |
| 1. TIME | : | 10:55 am |
| 1. MODE OF PAYMENT MADE (NEFT / UPI, PLEASE SPECIFY) | : | UPI, Phonepay |

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| (Name & Signature of  the team leader) | (Name & Signature of  Project Guide or HOD with Seal) |