Amrita School of Computing

Department of Computer Science and Engineering

Project Phase I: 21AIE495

(2020-2024 B.Tech AIE)

Problem Definition Document (Level-0)

1. **Project Title:** Human Centered Design towards blockchain enabled platform for AmritaSREE Self Help Groups
2. **Team members:**

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1. **Abstract**

In order to meet the critical need for rural development in developing nations, several women's self-help groups have sprung up all over the world with the mission of providing chances for livelihood to women in these areas. AmritaSREE, an initiative of Sri Mata Amritanandamayi Devi, stands for Amrita Self Reliance Education and Employment, is a Self-Help Group. SHGs assist economically vulnerable and unemployed women in becoming independent by helping them advance their technical and vocational skills. The initiative had gained popularity across India and now AmritaSREE is spreading almost all states of India. However, the management of SHG is a real administrative burden and when it expands in number in the different part of India. Maintaining the ledger, group compatibility and management will become a huge task and Ashram may need to employ many people to train the community. Similarly, the way the money is now managed involves keeping track of transactions in physical ledgers like books and passbooks, which can lead to mistakes and a lack of transparency. This study examines the issues that members might experience and offers solutions to address the managerial needs and SHG member needs. The project offers a distinctive IoT solution to address the problems facing the community by utilizing mobile computing and a human-centered design methodology to build an SHG management application. With the aid of the networking framework, the client-server technique can be used as the basis for a mobile application. The initiative suggests proposing blockchain technology to assure user transparency and enhance confidence between groups and group members in future. The mobile application's finance module ensures that the finances are completely accurate, which lessens the administrative work by allowing them to focus on summary reports rather than examining every single transaction.

1. **Motivation**

For example, consider a rural community in a developing nation where AmritaSREE self-help groups have been formed to empower women and provide them with livelihood opportunities. Currently, these groups rely on manual record-keeping methods, such as physical ledgers, which can lead to errors and a lack of transparency. With the proposed IoT solution, imagine a scenario where the self-help group members have access to a mobile application specifically designed for their needs. Using this application, they can securely record and manage their financial transactions digitally. Each transaction is validated through blockchain technology, ensuring transparency and trust among the group members.

Now, let's say a group member wants to make a financial transaction, such as borrowing money from the group's fund. Using the mobile application, she can easily request the transaction, which will be recorded and verified on the blockchain ledger. This process provides accountability and prevents any unauthorized or fraudulent activities within the group. Additionally, the group administrators can view summary reports generated by the finance module, saving them valuable time by not having to scrutinize each individual transaction. This streamlines the administrative tasks and allows them to focus on other aspects of supporting the group's development.

Overall, this example highlights how the proposed IoT solution with blockchain technology can empower women's self-help groups by providing them with accurate financial management tools, enhanced transparency, and improved accountability. It demonstrates the potential for technology to uplift and support rural communities in developing nations, contributing to their overall progress and economic self-reliance.

Students’ Name and Signature

Guide’s Signature