PROJECT REPORT

ON

ONLINE VIDEO/AUDIO STREAMING SERVICE BASED ON DECENTRALIZED ARCHITECTURE

Submitted by

ISHAN JOSHI – B150388568

KISHLAYA KUNJ – B150388586

NEERAJ LAGWANKAR – B150388597

In partial fulfillment for the award of the degree

Of

Bachelor of Engineering

Of

Savitribai Phule Pune University

IN

INFORMATION TECHNOLOGY

MIT COLLEGE OF ENGINEERING, PUNE

2018-19

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Guided by

ASST. PROF. SHAMLA MANTRI

DEPARTMENT OF INFORMATION TECHNOLOGY

MIT- COLLEGE OF ENGINEERING

Pune, Maharashtra, India.

SAVITRIBAI PHULE PUNE UNIVERSITY

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DEPARTMENT OF INFORMATION TECHNOLOGY

Certificate

This is to certify that,

B150388568: - ISHAN JOSHI

B150388586: - KISHLAYA KUNJ

B150388597: - NEERAJ LAGWANKAR

have successfully completed this project report entitled "**ONLINE VIDEO/AUDIO STREAMING SERVICE BASED ON DECENTRALIZED ARCHITECTURE**", under my guidance in partial fulfillment of the requirements for the degree of Bachelor of Engineering in Department of Information Technology of Savitibai Phule Pune University, Pune during the academic year 2018-19.

Date: - 1ST June 2019

Place: - Pune

Asst. Prof. Shamla Mantri — Project Guide

Dr. Krishna Warhade — Head of Department

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Ishan Joshi

Kishlaya Kunj

Neeraj Lagwankar

ABSTRACT

Over the last decade internet-based services have trended towards centralization. Today, a handful of companies control the platforms we use to search for information, store our personal data, manage our online identities, and communicate publicly and privately. Advancement in web technology has led to the concept of decentralized network, thus allowing the rise of peer to peer communication. The peer to peer communication circumvents this problem by relaying traffic through peers instead of a dedicated server. Our platform is built on decentralized architecture which overcomes the limitations posed by the conventional client server architecture. Since decentralized and distributed web is not controlled by any third party, it is extremely beneficial in solving the above mentioned problems. Furthermore, this will enable users from remote areas with low bandwidth internet to access the multimedia published on our platform in real time, thereby, enabling them to access multimedia content from all over the world. This project focuses on the development of a progressive web app to accomplish our goal of video and audio streaming on decentralized platform.

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LIST OF SYMBOLS, ABBREVIATION AND NOMENCLATURE

1. **DDoS** : Distributed Denial of Service
2. **DAG** : Directed Acyclic Graph
3. **dApp** : Decentralized App
4. **P2P** : Peer to peer
5. **DHT** : Distributed Hash Tables
6. **IP** : Internet Protocol
7. **IPFS** : InterPlanetary File System
8. **SFS** : Self-Certifying File System
9. **Pow** : Proof of Work
10. **DPoS** : Delegated Proof of Stake
11. **PoA** : Proof of Activity
12. **PoS** : Proof of Stake
13. **LLL** : Lisp- like Language
14. **HTTP** : Hyper Text Transfer Protocol
15. **CSS** : Cascading Style Sheets
16. **iOS** : Apple Operating System
17. **QR** : Quick Response
18. **JSX** : JavaScript Extended
19. **URL** : Uniform Resource Locator
20. **DFD** : Data Flow Diagram
21. **UML** : Unified Modeling Language
22. **PERT** : Program Evaluation Review Technique