# Online Video and Audio Streaming Service Based on Decentralized Architecture

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# 1. Introduction

## *1.1. Purpose*

The purpose of the document is to give a detailed description of Online Video and Audio Streaming Service Based on Decentralized Architecture. It will explain the purpose and features of the system, the interfaces of the system, what the system will do, the constraints under which it must operate and how the system will react to external stimuli. This is document is intended for both stakeholders and developers of the system and will be proposed as a B.E. Project.

## *1.2. Scope*

The first and foremost goal of our proposed system will be to deliver media content requested by an user in a fast and timely manner, limiting the packet losses using a decentralized app (dapp). The user should be able to sign up/sign in to the network using a secure authentication system. The user should also have the ability to like or dislike a video/audio. The user should be able to upload his/her own content to the dapp system. Using the liked content of the user, we will have a simple recommendation algorithm to keep the user engaged in the network. The more the users are engaged in the system, stronger the network becomes. Thus, the recommendation system will be an integral part of the dapp. Future scope will include developing Android and if possible iOS clients for the service. On the Android and iOS clients, the users should be able to download the content.

# 2. Overview

Today, in this rapidly changing world, media consumption is not a luxury anymore, it is a necessity. People view millions of videos every minute through various websites such as YouTube, Dailymotion and Twitch. It is thus, important that the user is provided with the desired content in a fast and timely fashion, with limited packet loss. Thus, we are trying to implement blockchain in video and audio streaming services which overcomes the drawbacks of traditional services. Blockchain aims at decentralizing the web in order to remove the middlemen (the servers) to provide peer to peer connectivity between users. It is considered as the future of internet. We hope to develop such a system that is able to deliver media content such as video or audio without delay or traffic issue. We aim to use modern technologies such as Blockchain, Proof of Stake and merging them with older technologies such as Peer to Peer networks/Ad Hoc systems, to develop a robust, fast and secure service platform.

# 3. Functionality

- Users will be able to log in via their uPort account created on the Android or iOS app.
- They will also be able to upload, like and view the already uploaded videos of other users.
- Users will be able to view their profile which contains their avatar, phone number and country.
- Users will also be able to listen to the audio version of the requested video.
- User's dashboard will provide an overview regarding the activities performed by the user.
- Home page will enable user to view videos of the channels he has subscribed to.

# 4. Platform

It will be launched as a web based application which can be opened using any modern browser such as Firefox and Chrome.

# 5. System Requirements

- Platform: Windows, Mac OS, any Linux based OS.
- RAM: Minimum 2GB.
- Modern web browser: Chrome, Firefox, Safari.
- Internet Connection

# 6. Deliverables

- Feature specification
- Product design
- Test plan
- Development document
- Source code