

Media TImestamping

Group Project



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# Requirements

## Introduction

Choreography or self-recorded song, a poem or a narrated story, a photograph or a video documenting life events or an art and an intellectual property - All these are original creations which means it is protected by copyright.

Typically, It’s a legal mandate to use a copyrighted work with an owner’s expressed  permission. Otherwise, you could be fined for the violation under the provision of the copyright act.

Ideally, the internet was created to connect computers and share information within nodes through users who are sharing creative content, doing business etc. and along with human intervention in sharing data over the internet, shouldn’t it be trustworthy ?

## Problem Statement

Unfortunately readers, content consumers, creators have no idea of what they are reading is original or is it plagiarised, changed or corrupted. Due to which fake news, negative lobbies have increased over the time. Fortunately, though blockchain is a new innovation and yet to be adapted by most of the industries, It is extremely useful to fight against untrustworthy content and to bring this change the solution is - **Timestamping content** to the blockchain.

* Copyright laws don’t actually serve their intended purpose of “helping” the public.
* The laws are so overly broad that they actually stifle an individual’s creativity rather than encourage it.
* The laws are so complicated and unclear that they can be easily abused by companies with access to lawyers.
* It’s too complicated and expensive for individual artists to actually enforce the rights that the law gives them.

## Goals

* Proof of Authority -
  + Refrain content from being used for fake news, negative lobbies.
* Ownership tracking -
  + Create an ownership history for documents from the very first version till the latest one.
* Intellectual property for content -
  + Create a decentralised intellectual property over a time for content timestamping.

## Stakeholders

* Content Creators
* Content Platforms
* Insurance Companies

## Exceptions

The hash generating function is sensitive to the input values provided so an attack can be performed to change insignificant values in the file and pass the authenticity test. In such a scenario, The system may fail.

**Ways to overcome**

Instead of using a keccak hash function we could use a locally sensitive hash function which will be able to tell the similarity of the files and mitigate simple attacks.

## Data

Graphical user interface

Description automatically generated

## User Stories

Diagram, text

Description automatically generated

# Architecture

## Project Description

MediaTimestamp, an internet platform that offers trusted timestamping using decentralised blockchain technology. Anonymously, users can create tamperproof timestamps to protect all types of digital content. You can retrieve, verify, and create any time stamp on the blockchain network. MediaTimestamp can be used by researchers, students, journalists, authors, artists, businessmen and others to verify the validity of their data for free. Showing a blockchain timestamp certificate with your content shows transparency, eventually leading to trust, but it’s not mandatory.

## Top Level Description

Saving timestamp and meta-data of files on blockchain can help prove authenticity and creator of the file. A smart contract will hold the database of such metadata, which can be used by entities like insurance companies to facilitate the authenticity process. NFT markets currently have a problem of copying nft photos; the contract can be used by the whole community to store and query to check if the files are the same.

## Data

Graphical user interface

Description automatically generated

## Functions – Inputs/ Outputs

Diagram

Description automatically generated

## Flow Diagram

Diagram, box and whisker chart

Description automatically generated with medium confidence

## Tech Stack

|  |  |
| --- | --- |
| **THE STAK** | **The First Priority** |
| **Front End Framework:** | **React JS** |
| **Local Smart Contract Development:** | **Remix IDE** |
| **CSS Framework:** | **Bootstrap CSS** |
| **Local Ethereum Development Environment:** | **Hardhat** |
| **Ethereum Front End Library:** | **Ethers.js** |
| **Wallet:** | **MetaMask** |
| **Node Provider:** | **Alchemy** |
| **Blockchain:** | **Rinkeby** |

# Project Plan

Graphical user interface

Description automatically generated with medium confidence

Note: Below mentioned link is to open project plan build in Microsoft project plan. (.mpp file)

[Project Plan File](file:///Users/advaitlele/Downloads/Project%20Media%20timestamp.mpp)