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WeThinkCode_ Project Report

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# Hypertube Report

This report contains a brief overview of the Hypertube project while providing a brief review of the project presentation and demonstration.

## 1. Introduction

Hypertube, one of the projects from the 42 / WeThinkCode_ Web module, is a project that challenges the learner to create a mock/clone movie streaming website.

### The project aim

The aim of this project is to develop a website that demonstrates the learning of the implementation of external APIs, oauthentication (external authentication), and torrent protocols.

This project proposes to create a web application that allows the user to research and watch videos.
The player will be directly integrated to the site, and the videos will be downloaded through the BitTorrent protocol.
The research engine will interrogate multiple external sources of your choice, like for example http://www.legittorrents.info, or even https://archive.org. Oncethe elementselected, it willbe downloadedfromthe serverand streamed onthe web player at the same time. Which means that the player won't only show the video once the download is completed, but will be able to stream directly the video feed.

### Project capabilities

The website allows two potential lovers to meet by allowing a user to register, connect, fill his/her profile, search and look into the profile of other users, like them and, chat with those that "liked" back from the registration to the final encounter. The web app has the following features:

- The application provides the user with the option to either sign up manually or to use a third party sign up.
    - Manual Sign Up
        - The application allows users to sign up by requesting a valid email address, username and password. With the password requiring to have some level of complexity.

- At the end of the sign-up process, users have to confirm their account via a unique link sent to the email address fulfilled in the sign-up form. This increases the app's security.
- Users are able to connect to the application, using their username and password. Users are also able to request a password reinitialisation mail, in the case that they have forgotten their password.
  - Third Part Sign-Up / Sign-In (Oauthintication)
    - Users are able to Sign-up (and Sign-in) to the application using their facebook, google or, if they are a student, their 42 student login.The user is able to disconnect in one click at any time on any page.
- Once connected, a user can modify his/her username, mail address or password and update his/her user profile.
- The user is able to search for a movie title which returns 'cards' with potential matches. Each 'card' containing the potential matche's:
  - Movie Title.
  - Movie poster.
  - Movie Rating.
- The user is also able to apply a sort or filter to the returned potential matches.
  - The user can sort or filter by:
    - Alphabetical Order
    - Genre
    - Rating
    - Year
- Once the user has selected a 'card' that matches their seach criteria, the user will be redirected to the movie's page.
- The movie page provides more insight and information on the selected Movie.
  - Movie Information includes:
    - The movie title
    - The movie poster
    - A Short Description of the movie
    - The movie production year
    - A list of the movie Actors
    - A list of the movie Production crew
- and the user can choose between streaming or downloading the selected movie.

## 2. Project Presentation

The project presentation covers the entire design process for the development of the application including documentation and testing plans. Research for this phase is conducted using a computer to access the information websites on the internet such as w3schools and php manual pages. Topics that are researched are web technologies such as HTML, CSS, Javascript, PHP and Database Management Systems such as MySql. More advanced languages like Node.js were also researched. The applications data needs such as the need for accessible and persistent data are taken into consideration and researched. As a result, 2 DBMS's are considered and researched for the applications data needs and MySql is chosen based on the advantages it provides for a web app of this nature. In-depth research is conducted in order to choose tools and products that make up the stack with which the app is built. These tools and products are PHP, Python, NodeJS, HTML, CSS, JS, notepad, Visual Studio Code. The design of the app is provided in the form of a UML diagram that shows the flow of the application from the point of view of the user.

## 3. Project Demonstration

The project demonstration showcases the source code and functionality of the web application.
The demonstration provides clear instructions on
- how to download the source code.
- Project setup
  - Configuration for the database
  - Configuration for the webserver and how to run the code itself.  A code breakdown is provided in the form of all the different files present in the source code. Documentation is provided in the form of a Readme.md file that contains an overview of the source code and instructions on how to run

the project. A clear testing plan is outlined and expected test results provided for future reference.

## 4. Conclusion

The end result is a web app that is a product of indepth research and a need to meet user requirements. Research is conducted using computer technology, and the chosen tools are motivated. Documentation is clearly outlined in a format that will allow users and developers alike to understand the project from their respective perspectives. A clear timeline for the project is provided with a breakdown of the time and costs into components that correspond to the whole project. The demonstration shows that the source code is managed by a version control tool and that multiple developers can work on the project. The demonstration also showcases the apps html and css features while showing that the project meets user requirements. A clear test plan is outlined and expected results provided.