SCHOOL OF ENGINEERING AND PHYSICAL SCIENCES

Department of Computer Science

Feasibility Study

For Media Search Web Application – part of CMP9134 Software Engineering Assessment

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TECHNICAL FEASIBILITY

The technical feasibility of this project examines whether the required technology, resources, and expertise are available to develop the open-license media search web application effectively.

The project will be developed using Laravel as the backend framework, ensuring a robust and scalable architecture. The frontend will be implemented using Vue.js for a dynamic user interface, or Laravel Blade for simpler templating, depending on feasibility during implementation. Laravel's built-in authentication system will be utilised to manage user accounts securely. Additionally, the Openverse API will be integrated to retrieve and display open-license media.

The technical expertise required for this project includes knowledge of PHP, Laravel, JavaScript, API integration, and database management with MySQL/MariaDB. Given the developer's familiarity with these technologies and the availability of extensive community support, technical implementation risks are minimised. The project will also leverage Git and GitHub for version control, ensuring a structured development process.

Maintaining and upgrading the system is expected to be manageable, as Laravel and Vue.js are widely used and well-supported. Docker will be employed for containerisation, ensuring portability across development and production environments. Furthermore, automated testing and continuous integration (CI) strategies will be implemented to maintain software quality.

SCHEDULE FEASIBILITY

The development of this project follows an incremental approach, with Agile and Scrum methodologies guiding the workflow.

The project is expected to progress as follows:

- **Weeks 1-2:** Finish this feasibility study, system design, and initial documentation.
- **Weeks 3-4:** Develop the user system (registration, login, and roles).
- **Weeks 5-6:** Connect the Openverse API so users can search and view media.
- **Weeks 7-8:** Build the frontend and improve the user experience.
- **Weeks 9-10:** Add security measures, testing, and performance improvements.
- **Final Weeks:** Complete documentation, final testing, and prepare for deployment.

The project will follow an **Agile approach**, meaning development will happen step by step. Progress will be tracked using **GitHub commits, logs and project section** to ensure deadlines are met.

ECONOMIC FEASIBILITY

Economic feasibility assesses the financial viability of the project by examining development costs against potential benefits. Given that the project is being developed using open-source technologies such as Laravel, Vue.js, and Openverse API, there are minimal expenses associated with licensing or software procurement.

The primary costs include hosting and deployment, which can be minimised by leveraging free-tier cloud services or using GitHub Pages for frontend hosting. Additional costs might arise from domain registration, potential premium API services (if required), and optional hosting upgrades for scalability. The estimated costs are:

- **Domain & Hosting:** Free (self-hosting)
- **Development Tools:** Free (Laravel, Vue.js, MySQL, Postman, Visual Studio Code, Docker, …)
- **API Usage:** Free (Openverse)
- **Potential Costs:** Paid API access for OAuth authentication (if required), premium hosting services

The benefits of this project outweigh the costs. The application provides **free access to open-license media**, which is valuable for educators, artists, and developers. In the future, monetisation options such as **premium features, partnerships, or donations** could be explored.

LEGAL FEASIBILITY

This section ensures that the project follows legal requirements and avoids legal risks.

Since the application only uses **open-license media**, it complies with copyright laws. The system will properly credit media sources and display usage guidelines where needed.

For user data protection, the system will follow **GDPR (General Data Protection Regulation)** rules. Personal information will be stored securely, and only necessary data will be collected. The application will have a **privacy policy and terms of use** to inform users about data handling.

Since the project is built with **open-source technologies**, no special licenses or permissions are needed. The Openverse API's terms of service will be followed to ensure compliance.

OPERATIONAL FEASIBILITY

Operational feasibility assesses whether the system can effectively function in a real-world setting and meet user expectations. The application is designed to be user-friendly, with a simple and intuitive interface for searching, filtering, and displaying media results. Responsive design principles will be followed to ensure accessibility across different devices and screen sizes.

For maintenance, the project will use **version control (GitHub)** to track updates, fixes, and improvements. A **well-organised code structure** will make future updates easier. After deployment, user feedback will be collected to help improve the system.

The project fits well with the **growing demand for open-access media**. Since it uses **widely supported technologies** like Laravel and Vue.js, it is expected to be **reliable, scalable, and easy to maintain** over time.