**Project Documentation: Image Search Engine**

**1. Introduction**

The Image Search Engine is a web-based platform developed using HTML, CSS, and JavaScript, integrated with the Unsplash API for high-quality image searches. Additional features include password-protected login/signup, an AI assistant, user suggestion form, AI-generated daily blogs, a 'Buy Me a Coffee' page, and a premium subscription model for premium images.

**2. Project Lifecycle**

**2.1 Planning**

* **Requirement Analysis:** Documented functional and non-functional requirements.
* **Technology Stack Selection:** HTML, CSS, JavaScript, Unsplash API for images, and Firebase for authentication and database.

**2.2 Design**

* **Wireframing:** Wireframes for all pages.
* **UI/UX Design:** User-friendly and responsive design.

**2.3 Development**

* **Frontend Development:** HTML, CSS, JS for dynamic functionality.
* **Backend Development:** Firebase and Unsplash API integration.
* **AI Integration:** AI Assistant and AI-generated blogs.

**2.4 Testing**

* Unit, Integration, and UAT testing.

**2.5 Deployment**

* Hosted on Firebase with regular maintenance.

**3. Roadmap**

**Phase 1: Setup (Unsplash API integration, authentication)**

**Phase 2: Core (Image search via Unsplash API, AI Assistant)**

**Phase 3: Advanced (AI blogs, payments)**

**Phase 4: Optimization (Responsive design, bug fixes)**

**4. Approaches**

* Agile methodology with sprints.
* Component-based, modular development.
* AI integration and user-centric design.

**5. Features Breakdown**

* **Home Page:** Unsplash API search.
* **Login/Signup:** Firebase authentication.
* **AI Assistant:** User queries.
* **Suggestion Form:** Firebase storage.
* **AI Blogs:** Daily blogs with AI.
* **Buy Me a Coffee:** Payment gateways.
* **Premium Subscription:** Subscription plans.

**6. Conclusion**

Integrating Unsplash API enhances the image search functionality, providing high-quality images efficiently with a seamless user experience.