DDS - System Documentation

## **Technologies Used**

### **1. PHP 8.4:** PHP is a widely-used open-source server-side scripting language, particularly suited for web development. The backend logic of the Document Delivery Service (DDS) application is built using PHP 8.4. This version provides improved performance, better type safety, enhanced error handling, and new language features like typed class constants and enhanced readonly properties. PHP handles user requests, performs input validation, communicates with the MySQL database, manages sessions, and handles authentication and mailing functionalities.

### **2. MySQL:** MySQL is a popular open-source relational database management system. It is used to store and manage the application's structured data, including user records, document requests, bibliographic details, institutions, journals, and logs of system interactions. The database schema is normalized for efficiency, and SQL queries are used for data retrieval, insertion, updating, and reporting.

### **3. JavaScript (jQuery):** JavaScript enhances the interactivity and responsiveness of the web application on the client side. The jQuery library, a lightweight and cross-browser-compatible abstraction over JavaScript, simplifies DOM manipulation, AJAX requests, event handling, and animations. jQuery is primarily used for:

* Submitting forms asynchronously.
* Populating dynamic content such as modals and tables.
* Enhancing user interactions like confirmation dialogs and form validations.
* Implementing real-time DataTables with server-side processing.

### **4. HTML5:** HTML5 is the latest standard of the HyperText Markup Language used for structuring web content. The DDS application's front-end pages are designed using HTML5 semantic elements for better accessibility and maintainability. Features such as form validation attributes, responsive layout elements, and multimedia support are leveraged to build a user-friendly interface.

### **5. CSS & Bootstrap:** CSS (Cascading Style Sheets) is used for defining the visual presentation of the web pages, including layout, colors, fonts, and spacing. The application uses **Bootstrap 5.3.3**, a modern front-end framework, to ensure responsive design and consistency across different devices and screen sizes. Bootstrap components such as cards, modals, buttons, and grids are heavily used to streamline UI development and reduce manual CSS coding.