# SOFTWARE REQUIREMENT SPECIFICATION-

Researc Hub:

"Find, Connect, and Inspire Through Knowledge"

**1. Introduction**

* **Purpose**: The goal of this project is to develop a website that enables users to search, filter, and explore data on researchers based on various categories, including their names, institutions, countries, fields, subfields, and sub-subfields of study. The platform aims to facilitate networking among students, scholars, and scientists by providing access to detailed researcher information, including rankings and contact details like Gmail IDs.
* **Scope**:
  1. Displaying detailed researcher data.
  2. Providing filtering options by multiple criteria such as researcher name, institution, country, and research fields.
  3. Ranking of researchers in their respective domains.
  4. User authentication and profile management for a personalized experience.
  5. Networking functionalities to allow users to contact researchers via email.
* **Audience**:
  1. Students seeking mentors or guidance in specific fields.
  2. Scholars conducting literature reviews or looking for potential collaborators.
  3. Professionals and scientists looking to build a network within their research domain.

**2. Overall Description**

* **Product Perspective**: This website is a standalone platform designed to centralize researcher data for academic and networking purposes. It will integrate with a backend database to store and manage large datasets related to researchers and their credentials.
* **Product Functions**:
  1. Display a comprehensive list of researchers.
  2. Enable detailed filtering by various criteria.
  3. Provide user profiles and authentication.
  4. Display researcher rankings based on selected criteria.(which will be provided in data set )
  5. Allow users to send emails for networking or collaboration.

**3. System Features**

* **Feature 1: Researcher Data Display**:
  + 1. **Description**: Display detailed researcher information such as name, institution, country, ranking, Subject area , sm field , sm field2 , Citing (np citing) , Cited9623 , sm-field-frac , rank , and Gmail ID.
    2. **Priority**: High.
    3. **Inputs**: Researcher dataset.(can be area of interest , can be name )
    4. **Outputs**: Display researcher data in a structured card format. (in future photo will be provided)
* **Feature 2: Filtering System**:
  + 1. **Description**: Allow users to filter researchers by name, institution, country, field, subfield, and ranking.
    2. **Priority**: High.
    3. **Inputs**: User-selected filters.
    4. **Outputs**: List of filtered researchers based on the selected criteria.
* Feature 3: Allowing user to Save Profile of Researcher they selected for future
  + 1. **Description**: Provide a different page where user can see saved profile of researchers.
    2. **Priority**: Medium.
    3. **Inputs**: click on save profile button
    4. **Outputs**: Display profile of saved researchers.
* **Feature 3: User Authentication**:
  + 1. **Description**: Provide a user authentication system for login, registration, and profile management.
    2. **Priority**: Medium.
    3. **Inputs**: User credentials (email, password).
    4. **Outputs**: Access to user-specific content and settings.

**4. External Interface Requirements**

* **User Interface**:
  1. A navigation bar for easy access to different sections.
  2. Data cards with filtering options.(further functionality can add by clicking on the card , an entire page will open with more information about the researchers)
  3. A filtering sidebar for choosing various criteria.
  4. User profiles with login/logout functionality.
* **Hardware Interfaces**: Minimal requirements for devices
* **Software Interfaces**: Backend database for storing researcher data , integration with email systems for sending networking requests.
* **Communications Interfaces**: Email protocols (SMTP) for networking , HTTPS protocol for secure communication.

**5. System Architecture**

* **High-Level Architecture**:
  1. **Frontend**: Built with React for user interaction.
  2. **Backend**: Node.js server handling business logic.
  3. **Database**: MongoDB for data storage.

**6. Functional Requirements**

* A detailed list of requirements for each feature (Home, Filtering, Profile).
* Break down into sub-requirements if necessary.

**7. Non-Functional Requirements**

* **Performance Requirements**: Load data within 2 seconds for a standard search , Support up to 10,000 simultaneous users.
* **Usability Requirements**: Intuitive navigation and sidebar for filtering
* **Scalability**: Capability to handle an increase in dataset size.

# USER STORIES:

1. **As a Student, I want to explore detailed researcher data so that I can identify potential mentors in my field of interest.**
   * + The user can view researcher profiles with information on name, institution, country, field, subfield, and ranking.
     + Each profile should display contact details such as Gmail ID.
2. **As a Scholar, I want to filter researchers by field, subfield, and country so that I can easily find experts relevant to my research.**
   * The user can select multiple filtering options.
   * The results update dynamically based on selected filters.
   * Users can apply advanced filters down to sub-subfields.
3. **As a Scientist, I want to see a ranking of researchers within a specific subfield so that I can evaluate potential collaborators based on their expertise.**
   * Rankings are displayed for each researcher based on field, subfield, and sub-subfield.
   * Rankings can be sorted and filtered by region or institution.
4. **As a Student, I want to contact researchers via email directly from the platform so that I can initiate networking opportunities and seek guidance.**
   * The user can click on an email icon to open an email client pre-filled with the researcher's email.
   * Email communication should respect data privacy rules.
5. **As a Professional, I want a user-friendly interface that allows me to quickly navigate between different fields and filter results efficiently.**
   * The interface should have a clear navigation bar and filter section.
   * Filters should be easy to apply, remove, and modify.
   * layout should be responsive and adjust to different devices.