

## Planning Document: Article Manager

**Project Name:** Article Manager

**Team Name:** Gen-Z

## Project Overview

The goal of the Article Manager project is to create an instructional resource platform for school students. The platform offers a centralized database of reference materials in the fields of **Technology, Mathematics, and Art**, accessible by students, tutors, and administrators. Its primary aim is to enhance the educational experience by providing organized access to content and allowing CRUD operations on articles.

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## Educational Content Structure

The educational content is divided into three primary categories:

1. **Technology**
2. **Mathematics**
3. **Art**

Each category will include:

- Notable figures
- Significant works
- Events
- Key concepts

## User Access Levels

### 1. Students

- Browse articles by category
- Search articles by keyword

### 2. Tutors

- Add new articles
- Edit existing articles
- Delete articles

### 3. Administrators

- Full CRUD access
- User management
- Database control

## CRUD Operations Supported

- **Create:** Tutors and administrators can add new articles.
- **Read:** Students can view articles by category or keyword.
- **Update:** Tutors and administrators can modify articles.
- **Delete:** Administrators can remove articles.

## Functional Requirements

### Article Management

- Add article
- Edit article
- Delete article
- View article

## **Student Management**

- Add student
- Edit student
- Delete student

## **Functions Out of Scope**

- Add/edit/delete Courses
- Add/edit/delete Timetable
- Add/edit/delete Attendance

## **User Stories**

### **Students**

- Easy-to-navigate and engaging interface
- Quick search for articles
- Mobile-friendly access
- Personalized content suggestions

### **Tutors**

- Intuitive interface for adding/editing articles
- Support for multimedia content
- Ability to review and approve student submissions

### **Administrators**

- Efficient and secure user management
- Dashboard with analytics and performance metrics
- Easy database backup and restoration options

# Project Iterations

## Iteration 1: System Design Document

**Objective:** Develop a comprehensive Solution Design document.

**Plan:**

- Analyze educational content structure
- Define system architecture
- Design database model
- Draft UX and user access documentation
- Clarify project requirements and structure
- Finalize Solution Design Document

## Iteration 2: Database Development

**Objective:** Implement the database structure.

**Plan:**

- Apply approved data model in MongoDB
- Populate with sample/test data
- Establish a robust, efficient data structure
- Verify data integrity using test inputs

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## Iteration 3: Database Query Development

**Objective:** Build and validate article retrieval queries.

**Plan:**

- Identify required queries based on client needs
- Implement and test keyword/category-based search
- Ensure query functionality and efficiency

## Iteration 4: Web Application Implementation

**Objective:** Build and test the front-end application.

**Plan:**

- Develop a single-page web application (SPA) in React
  - Integrate frontend with backend database and queries
  - Conduct functionality tests
- Goals:**
- Provide a responsive and intuitive user interface
  - Validate seamless database interaction through the UI