National College of Ireland

Configuration Manual

MSc Research Project
MSc. In Cyber Security

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Project Submission Sheet

Student Name:	Sharan Sridhar		
Student ID:	23157267		
Programme:	MSc in Cybersecurity	**Year:**	2023-2024
Module:	MSc Research Project		
Lecturer:	Jawad Salahuddin		
Submission Due Date:	12-08-2024		
Project Title:	Utilizing Blockchain Technology to Improve Accountability, Security, and Transparency in Digital Asset Management		
Word Count:			

I hereby certify that the information contained in this (my submission) is information pertaining to research I conducted for this project. All information other than my own contribution will be fully referenced and listed in the relevant bibliography section at the rear of the project.
ALL internet material must be referenced in the references section. Students are encouraged to use the Harvard Referencing Standard supplied by the Library. To use other author's written or electronic work is illegal (plagiarism) and may result in disciplinary action. Students may be required to undergo a viva (oral examination) if there is suspicion about the validity of their submitted work.

Signature: Sharan Sridhar

Date: 12-08-2024

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4. You must ensure that all projects are submitted to your Programme Coordinator on or before the required submission date. **Late submissions will incur penalties.**
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Configuration Manual

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1. Introduction

This configuration manual provides a detailed overview of the hardware and software requirements for setting up and running the Digital Asset Management System. The document outlines the steps needed to install, configure, and deploy the system, ensuring a smooth and efficient setup process.

2. Environment Specifications

Before running the Digital Asset Management System, ensure that your system meets the following hardware and software requirements.

2.1 Hardware Specifications

- System: Laptop or Desktop
- Operating System: Windows 10 or higher / macOS / Linux
- RAM: Minimum 8 GB
- Hard Disk: 256 GB SSD or more
- Processor: Intel i5 or equivalent
- Graphic Card: Not required, but a minimum of 2 GB VRAM is recommended for certain features

2.2 Software Specifications

- Operating System: Windows 10, macOS, or Linux
- Programming Language: Python 3.8 or higher
- Web Server: Django 3.2 or higher
- Database: SQLite (for development), PostgreSQL (for production)
- IDE: Visual Studio Code or PyCharm

2.3 Libraries and Dependencies

- Ensure the following Python libraries are installed:
- Django==3.2
- Pillow
- psycopg2 (for PostgreSQL)
- gunicorn (for production)

2.4 Prerequisites

- **Python Installation**: Install Python 3.8 or higher from python.org.
- **Django Installation**: Install Django using pip:
  pip install Django
- **Database Setup**: Install PostgreSQL if you plan to use it for production.

3.1 Setting Up the Environment

- **Clone the Repository**:
  Clone the project repository from your version control system:
  git clone https://github.com/your-repository-url.git
- **Navigate to the Project Directory**:
  cd DigitalAssetManagement
- **Create a Virtual Environment**:
  python -m venv env
- **Install Dependencies**:
  pip install -r requirements.txt

3.2 Database Configuration

1. **SQLite Setup (Development)**: No additional setup is required for SQLite. The database will be automatically created.
2. **PostgreSQL Setup (Production)**:
   - Create a new PostgreSQL database.
   - Update DATABASES in settings.py with your PostgreSQL credentials

3.3 Running Migrations

Apply the initial migrations to set up the database schema:
python manage.py makemigrations
python manage.py migrate

3.4 Running the Development Server

To start the development server, run:
python manage.py runserver
Access the application via http://127.0.0.1:8000/.

4. Configuration and Customization

Customize the application by modifying the following files:
settings.py: Update your environment-specific settings.
urls.py: Define your application's URL patterns.
views.py: Customize views to alter application behavior.

5. Troubleshooting

For any issues during installation or setup, consult the following:

- **Log Files**: Check django.log in the root directory for error logs.
- **Common Issues**:
  1. Missing dependencies: Run pip install -r requirements.txt.
  2. Database errors: Ensure your database credentials are correct in settings.py.

6. Conclusion

This manual provides the necessary steps to configure and deploy the Digital Asset Management System. Follow the outlined procedures for a successful setup and refer to the troubleshooting section for any issues encountered during the process.