

Milestone 1

Use cases, High Level Requirements and Architecture

By Team 2

Global Distributed Software Development,
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{ “*project_name*” : “*MediaMajesty*” }

Team 2

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1. Executive Summary:

MediaMajesty is an innovative web-based service developed by a dedicated team of 6 students, aimed at enhancing the academic and creative experience of Fulda University students and faculty. Our platform serves as a centralized hub for the Fulda community to seamlessly buy, sell, or share a wide range of digital media, including images, music, videos, and graphics. The primary objective of MediaMajesty is to foster collaboration, knowledge exchange, and creativity among our users.

Why fund MediaMajesty?

In today's fast-paced digital world, sharing and accessing high-quality digital media resources are critical for students and faculty to excel in their academic and creative pursuits.

MediaMajesty addresses this need by providing a user-friendly platform tailored to the specific requirements of Fulda University. We envision this platform as a catalyst for collaboration, innovation, and efficient resource utilization.

Key Advantages and Novelty:

MediaMajesty distinguishes itself in several ways:

- **Tailored to Fulda:** Unlike generic digital media platforms, MediaMajesty is exclusively available to Fulda students and faculty. This exclusivity ensures a trusted and closely-knit community for sharing and accessing resources.
- **Safe and Moderated Environment:** To maintain the integrity of the platform, an administrator will oversee every media item, ensuring compliance with community guidelines and eliminating inappropriate content.
- **Free and Secure:** MediaMajesty prioritizes the security of media owners. Users can post items for sale or free use, allowing them to control access and engage with potential buyers securely.
- **User-Friendly Interface:** Our platform is designed for individuals of all technical backgrounds, making it accessible to a broad audience.

High-Level Services:

MediaMajesty provides the following essential functions and services:

- **Post and Search:** Users can easily post items for sale or free use, and potential buyers can search, browse, and contact sellers using a simple messaging system.
- **Resolution Control:** Media for sale can only be accessed in full resolution upon agreement between the buyer and the seller, ensuring content owners maintain control over their assets.

- Direct Downloads: Free media is immediately accessible in full resolution, promoting efficient resource sharing among the community.

About Our Team:

MediaMajesty is the brainchild of a passionate and diverse team of Fulda University students. Our team comprises individuals with varied expertise, from computer science to design, software engineering, and much more. We are committed to building a secure and user-friendly platform that will empower Fulda students and faculty in their academic and creative endeavors. Our dedication and collective vision drive this project forward.

In conclusion, MediaMajesty is more than just a digital media marketplace; it's a community-driven initiative that fosters collaboration, creativity, and resource-sharing within Fulda University. We seek your support to bring this innovative platform to life, making a positive impact on the Fulda academic community and beyond.

2. Personas and Main Use Cases:

Personas:

1. Student Sam:

Characteristics: Undergraduate student, tech-savvy, active social media user.

Goals: Sam wants to easily find and share digital media resources for their coursework and creative projects. Sam hopes to connect with other students and faculty for collaboration and resource exchange.

Skills: Proficient in using web applications and social media platforms.

Pain Points: Sam struggles to find high-quality, Fulda-specific digital resources for their projects, and they are concerned about the authenticity and legality of downloaded content.

2. Faculty Member Fiona:

Characteristics: Fulda University professor, experienced in their field, limited tech expertise.

Goals: Fiona seeks a platform that simplifies the process of sharing class materials, research findings, and educational resources with their students. They aim to foster an engaging and collaborative learning environment.

Skills: Limited technical skills, comfortable with basic computer operations.

Pain Points: Fiona finds it challenging to share and manage digital resources within a secure and university-specific environment, often facing copyright and accessibility issues.

3. Media Creator Max:

Characteristics: Aspiring artist, photographer, or musician, passionate about their craft.

Goals: Max wants to showcase and sell their creative digital media to a local and supportive community. They aim to generate income and build a network of customers.

Skills: Proficient in creating digital media but may lack experience in online marketing and sales.

Pain Points: Max finds it difficult to connect with potential buyers and lacks a secure platform to sell their digital media without the risk of copyright infringement.

4. Admin/Administrator Alice:

Characteristics: University staff member responsible for platform moderation.

Goals: Alice is tasked with ensuring the platform's content adheres to the university's guidelines, maintains a safe and secure environment for all users, and resolves disputes or issues that may arise.

Skills: Proficient in platform administration, content moderation, and community management.

Pain Points: Alice's challenges include handling disputes and ensuring that only authorized users gain access to the platform.

Main Use Cases:

Use Case 1: Student Sam Finds and Downloads Digital Resources (Title: "Resource Discovery")

Sam logs into MediaMajesty, enters relevant search criteria, and discovers a selection of digital media resources uploaded by peers and faculty. Sam browses the content, selects a resource, and downloads it in full resolution, facilitating the completion of an assignment. The platform's user-friendly design makes it easy for Sam to find and access resources.

Use Case 2: Faculty Member Fiona Shares Class Materials (Title: "Classroom Collaboration")

Fiona, a professor at Fulda University, logs into MediaMajesty. She uploads lecture slides, study materials, and additional resources for her students to access. Fiona uses the platform to facilitate seamless communication with her students, ensuring all necessary materials are readily available, improving the learning experience.

Use Case 3: Media Creator Max Sells Digital Artwork (Title: "Creative Marketplace")

Max, an aspiring artist, wants to sell their digital artwork. Max registers on MediaMajesty, uploads their artwork, sets a selling price, and provides descriptions. A fellow student or

faculty member discovers Max's artwork, agrees to the purchase terms, and buys the digital media, empowering Max to monetize their talent.

Use Case 4: Admin Alice Ensures Platform Compliance (Title: "Moderation and Content Oversight")

Alice, the platform administrator, logs into MediaMajesty to oversee and approve new media uploads. She ensures that all uploaded content complies with university guidelines and resolves any disputes or inappropriate items. Alice's active involvement in the moderation process ensures a safe and secure environment for all users, maintaining the platform's integrity.

3. List of main data items and entities:

1. **User Profiles:** User profiles represent the information about registered individuals using MediaMajesty, including students, faculty, and administrators.
2. **Media Items:** Media items represent digital content uploaded by users for sharing, selling, or viewing.
3. **Messaging System:** The messaging system is a feature that enables users to communicate with each other.
4. **Admin Controls:** Admin controls refer to the functionality used by the platform administrator to manage user accounts, uploaded media, and resolve disputes.
5. **Terms and Conditions:** Terms and Conditions outline the rules and guidelines for using MediaMajesty.
6. **User Privileges:** User privileges define the actions and access rights available to different user types (Student, Faculty, Admin).
7. **Search Queries:** Search queries are user-generated requests for specific media items.
8. **Accessibility Settings:** Accessibility settings allow users to customize their experience, such as text size and screen reader compatibility.

These key data items and entities form the foundation of MediaMajesty, shaping user interactions and defining the structure of the platform's database and user interface. Consistent use of these terms will guide the development and design process.

4. Initial list of functional requirements:

- User Registration (FR-01): Users can create accounts with their name, email, and password. User type selection is mandatory during registration.
- User Login (FR-02): Registered users can log in with their credentials to access the platform.
- Media Upload (FR-03): Users can upload digital media items, providing details like title, description, type, and resolution.
- Media Search and Discovery (FR-04): Users can search for media items based on keywords, type, and other filters.
- Messaging System (FR-05): Users can communicate with each other through a messaging system to discuss media items and transactions.
- Resolution Control (FR-06): Access to full-resolution media items is only granted after users agree on terms (purchase or free use).
- User Profile Management (FR-07): Users can edit their profiles, update personal information, and change settings.
- Content Moderation (FR-08): The administrator can review and approve media items, as well as remove inappropriate content.
- User Privilege Management (FR-9): The administrator can assign roles and privileges to users based on their type and responsibilities.
- Terms and Conditions Acceptance (FR-10): Users must agree to the platform's terms and conditions during registration.
- User Feedback and Rating (FR-11): Users can provide feedback and ratings for media items and other users to build trust.
- Reporting System (FR-12): Users can report inappropriate content or issues, triggering action by the platform administrator.
- Search Media (FR-13): Users can search for media using filters.
- Categorization (FR-14): Users can organize and filter content based on predefined categories.
- Privacy Control (FR-15): Users can set privacy settings for each media item, choosing between public, private and shared with specific users.
- User Authentication (FR-16): Users prompted to reset their passwords if forgotten.

- Users Onboarding Tutorials (FR-17): New users receive steps by steps tutorials highlighting the key features.
- User Privilege Assignment (FR-18): Admins have the ability to assign and adjust users roles based on their responsibilities on the platform.
- Emergency response (FR-19): Admins have a feature to respond quickly to emergency situations, such as handling harmful or inappropriate content.
- Creative Marketplace Features (FR-20): Media creators can set prices for their digital media items. And users can view a list of media items available for sale in a dedicated “Marketplace” section.

5. List of non-functional requirements:

- Application shall be developed, tested and deployed using tools and servers approved by Class CTO and as agreed in Milestone 0. Application delivery shall be from chosen cloud server.
- Application shall be optimized for standard desktop/laptop browsers e.g., must render correctly on the two latest versions of two major browsers.
- All our selected application functions must render well on mobile devices.
- Data shall be stored in the database on the team’s deployment cloud server.
- Full resolution free media shall be downloadable directly, and full resolution media for selling shall be obtained after contacting the seller/owner.
- No more than 50 concurrent users shall be accessing the application at any time.
- Privacy of users shall be protected, and all privacy policies will be appropriately communicated to the users.
- The language used shall be English (no localization needed)
- Application shall be very easy to use and intuitive.
- Application should follow established architecture patterns.
- Application code and its repository shall be easy to inspect and maintain.
- Google analytics shall be used (optional for Fulda teams)
- No email clients shall be allowed.
- Pay functionality, if any (e.g., paying for goods and services) shall not be implemented nor simulated in UI.

- Site security: basic best practices shall be applied (as covered in the class) for main data items.
- Application shall be media rich (images, video etc.). Media formats shall be standard as used in the market today.
- Modern SE processes and practices shall be used as specified in the class, including collaborative and continuous SW development.
- For code development and management, as well as documentation like formal milestones required in the class, each team shall use their own GitHub to be set-up by class instructors and started by each team during Milestone 0
- The application UI (WWW and mobile) shall prominently display the following exact text on all pages "Fulda University of Applied Sciences Software Engineering Project, Fall 2023 For Demonstration Only" at the top of the WWW page. (Important to not confuse this with a real application).

6. Competitive analysis:

Feature	Behance	Dribbble	Etsy	MediaMajesty
User Registration	Yes	Yes	Yes	Yes
Media Upload	Yes	Yes	Yes (digital)	Yes
Messaging System	Yes	Yes	Yes	Yes
Resolution Control	No	No	No	Yes
Content Moderation	Limited	Yes	Limited	Yes
User Privilege Management	No	No	No	Yes

Planned Advantages:

MediaMajesty distinguishes itself by catering specifically to the Fulda University community, offering a platform where students and faculty can share and access digital media. It provides unique features like resolution control, enabling users to regulate access to high-resolution media. It also includes robust content moderation to maintain a secure environment, which some competitors lack. Furthermore, MediaMajesty's user privilege management system empowers administrators to assign roles and privileges, enhancing the platform's customization and administrative capabilities, which are unavailable in some competitive

products. These features create a secure, user-friendly, and efficiently managed platform, providing a competitive advantage within the Fulda University community.

7. High-level system architecture and technologies used:

Software stack:

Sever Host: Azure virtual machine Standard B1ms

Operating System: Ubuntu 22.04

Database: MySQL version 8.2.0

Web Server: NGINX 1.24.0

Server-Side Language: Python

Client-Side Language: JavaScript(Angular)

Additional Technologies:

Web Frameworks: Django, Angular

IDE: VSCode, NeoVim, PyCharm

SSL Cert: Lets Encrypt (Cert Bot)

8. Team members and roles:

Name	Email	Nickname	Role	Can meet these times outside the class
Abbas	abbas.abbas@informatik.hs-fulda.de	Abbas	Team Lead	Yes
Achraf	achraf.boudabous@informatik.hs-fulda.de	Achraf	Frontend lead	Yes
Shinu	shinu.donney@informatik.hs-fulda.de	Tom	GitHub master	Yes
Shifali	Shifali.shifali@informatik.hs-fulda.de	Shifali	Backend lead	Yes
Duru	duru.yilmaz@informatik.hs-fulda.de	Duru	Frontend	Yes
Anwer	anwer-ahmed.al-dhify@informatik.hs-fulda.de	Anwer	Backend	Yes



9. Checklist:

- Team found a time slot to meet (online) outside of the class: **DONE**
- GitHub master chosen: **DONE**
- Team decided and agreed together on using the listed SW tools and deployment server: **DONE**
- Team ready and able to use the chosen back and front end frameworks and those who need to learn are working on learning and practicing: **ON TRACK**
- Team lead ensured that all team members read the final M1 and agree/understand it before submission: **DONE**
- GitHub organized as discussed in class (e.g. master branch, development branch, folder for milestone documents etc.): **DONE**