

Problem Solution Fit: Online Complaint Registration and Management System (OCRMS)

Define CS, fit into CL	<div>1. CUSTOMER SEGMENT(S)<div>CS</div><div>1.1 Primary Customers: Educational institutions, students, faculty members, and administrative staff.</div><div>1.2 Secondary Customers: Government education bodies, private learning institutions, and e-learning platforms.</div><div>1.3 Intensity: High, as the need for an efficient online course and resource management system (OCRMS) is crucial for modern digital learning environments.</div></div>	<div>6. CUSTOMER LIMITATIONS<div>EG. BUDGET, DEVICES</div><div>CL</div><div>6.1 Budget constraints for educational institutions.</div><div>6.2 Limited technical expertise among faculty and students.</div><div>6.3 Device compatibility issues (students and faculty using different operating systems and hardware configurations).</div><div>6.4 Resistance to change from traditional teaching methods.</div></div>	<div>5. AVAILABLE SOLUTIONS<div>PLUSES &amp; MINUSES</div><div>AS</div><div>5.1 Existing Learning Management Systems (LMS) like Moodle, Blackboard, and Google Classroom.</div><div>5.2 Cloud-based storage solutions like Google Drive and OneDrive and Custom-built software solutions developed by individual institutions.</div><div>5.3 Offline learning management methods (manual record-keeping, printed materials) and Limitations of available solutions: High cost, lack of customization, steep learning curve, and inadequate security measures.</div></div>	Explore AS, differentiate
	<div>2. PROBLEMS / PAINS + ITS FREQUENCY<div>PR</div><div>2.1 Difficulty in managing and organising online course content.</div><div>2.2 Lack of centralized storage for educational resources.</div><div>2.3 Poor user experience due to inefficient navigation and access to study materials.</div><div>2.4 Security concerns regarding unauthorized access to sensitive data.</div><div>2.5 Ineffective tracking and management of students' academic progress.</div></div>	<div>9. PROBLEM ROOT / CAUSE<div>RC</div><div>9.1 Lack of a centralized, efficient, and cost-effective digital learning management system.</div><div>9.2 Dependence on outdated or inefficient platforms.</div><div>9.3 Frequent data access issues due to poor infrastructure.</div><div>9.4 The problem occurs daily, affecting both students and faculty regularly.</div></div>	<div>7. BEHAVIOR + ITS INTENSITY<div>BE</div><div>7.1 Users rely on cloud storage and third-party LMS platforms for course management.</div><div>7.2 Institutions spend on external solutions rather than developing in-house systems.</div><div>7.3 Faculty and students often create manual backups of materials due to fear of data loss.</div><div>7.4 Need for seamless integration with existing educational tools and platforms.</div></div>	Focus on PR, tap into BE, understand RC
Identify strong TR & EM	<div>3. TRIGGERS TO ACT<div>TR</div><div>3.1 Increased adoption of online learning post-pandemic.</div><div>3.2 The need for streamlined content management systems in educational institutions.</div><div>3.3 Growing demand for secure and accessible digital learning platforms, and government regulations and policies encouraging digital transformation in education.</div></div>	<div>10. YOUR SOLUTION<div>SL</div><div>A comprehensive Online Course and Resource Management System (OCRMS) tailored for educational institutions. Few features are as follows:</div><div>A. Centralized cloud-based storage for educational materials.</div><div>B. Secure authentication and authorization mechanisms.</div><div>C. User-friendly interface with customizable features for different users (students, faculty, admins).</div><div>D. Automated tracking of student progress and performance analytics.</div><div>E. Scalable architecture to accommodate institutions of various sizes.</div><div>F. Seamless integration with existing LMS and e-learning platforms.</div><div>G. Cost-effective solution tailored for educational needs.</div></div>	<div>8. CHANNELS of BEHAVIOR<div>CH</div><div>ONLINE</div><div>Institutional websites, social media, email campaigns, academic forums.</div><div>OFFLINE</div><div>Workshops, faculty training sessions, institutional meetings.</div></div>	Extract online & offline CH of BE
	<div>4. EMOTIONS<div>BEFORE / AFTER</div><div>EM</div><div>4.1 Before: Frustration due to inefficient systems, disorganization, and lack of access.</div><div>4.2 After: Satisfaction, ease of use, confidence in security, and improved academic efficiency.</div></div>			

## Project Design Phase

<b>Date</b>	01.04.2025
<b>Team ID</b>	SWTID1743161557
<b>Project Name</b>	Online Complaint Registration and Management System (OCRMS)
<b>Program</b>	Full Stack Development MERN_VIT

### Problem - Solution Fit

**Topic:** Online Complaint Registration and Management System (OCRMS)

#### 1.Problem Statement

Handling and managing complaints manually is an inefficient and outdated approach, leading to significant issues such as delays in response, lack of transparency, and mismanagement of records. This results in frustration for users who face difficulties in registering, tracking, and resolving complaints. Currently, organizations, government agencies, and service providers lack a structured, automated, and centralized system for complaint handling, making the process cumbersome and inefficient.

#### 2. Existing Challenges

##### A. Challenges Faced by Users (Complainants)

<b>i. Difficulty in Registering Complaints</b>	Users often struggle with lengthy, complaint registration processes.
<b>ii. Lack of Transparency</b>	Users are not informed about the progress or resolution status of their complaints.
<b>iii. Delayed Resolutions</b>	Manual handling leads to delays, often leaving complaints unresolved.
<b>iv. No Tracking System</b>	Users cannot track their complaint's progress in real-time.

##### B. Challenges Faced by Authorities (Complaint Handlers/Administrators)

<b>i. Overwhelming Complaint Volume</b>	Authorities have difficulty managing large volumes of complaints efficiently.
<b>ii. Lack of Categorization &amp; Prioritization</b>	No automated system exists to classify complaints based on urgency or category.
<b>iii. Poor Communication &amp; Follow-up</b>	Miscommunication between users and authorities leads to inefficiencies.
<b>iv. Manual Documentation Issues</b>	Paper-based or basic digital complaint systems lack structured workflows, leading to mismanaged records.

### 3. Market Gap / Why an Automated System is Needed?

- ❑ **Existing complaint management systems lack automation and efficiency.** Many traditional systems rely on paper-based forms, email submissions, or inefficient digital tools that do not provide real-time tracking, structured workflows, or automation.
- ❑ **Rising demand for digital transformation.** With increasing digitalization across industries, organizations need intelligent, automated, and cloud-based solutions to enhance their service efficiency.
- ❑ **Expectation for faster resolutions.** Modern consumers and citizens expect quick response times and transparent complaint tracking, which traditional systems fail to provide.

### 4. Proposed Solution: OCRMS

The Online Complaint Registration and Management System (OCRMS) is a MERN (MongoDB, Express.js, React.js, Node.js) stack-based web application designed to streamline complaint management through automation, real-time tracking, and efficient resolution workflows.

#### 4.1 Key Functionalities of OCRMS

- ✓ **User-Friendly Registration System** – Users can easily register complaints via an intuitive interface.
- ✓ **Automated Complaint Assignment** – The system assigns complaints to the appropriate department or agent based on predefined rules.
- ✓ **Real-time Complaint Tracking** – Users can monitor the status of their complaints from submission to resolution.
- ✓ **Role-Based Access Control** – Different roles (User, Agent, Administrator) ensure efficient workflow and security.
- ✓ **Notification & Alerts** – Users and administrators receive real-time updates on complaint status.
- ✓ **Efficient Categorization & Prioritization** – Complaints are classified based on urgency and category for better resolution management.
- ✓ **Secure Data Management** – Uses MongoDB and encrypted authentication mechanisms to protect sensitive complaint data.
- ✓ **Scalability & Cloud Readiness** – Designed to handle a growing number of users and complaints efficiently.