IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 4, April 2026
Impact Factor: 8.2

AI Powered Smart Learning Portal

Asst. Prof. .Pooja S. Nikam[1], Laxmi Annasaheb Patil[2], Prof. M .S. Bhandigare[3]
Master of Computer Applications (MCA)
Head of Department
Sant Gajanan Maharaj College of Engineering (SGMCOE), Mahagaon
Shivaji University , Kolhapur, Maharashtra, India
msbhandigare@gmail.com, Poojanikam1016@gmail.com, laxmiapatil26@gmail.com

Abstract: *Learn Smarter With AI is a web-based application designed to provide a modern and efficient digital learning platform for students and educators. The system enables users to access educational resources such as courses, study materials, video lectures, assignments, and quizzes anytime and from anywhere, making learning more flexible and accessible. The platform allows students to register, securely log in, enroll in courses, and track their academic progress through performance monitoring features. Teachers and administrators can manage course content, upload study materials, create quizzes and assignments, and analyze student performance using interactive dashboards and reports. The application ensures data security through secure authentication and proper database management. It also provides notifications and updates to keep users informed about academic activities and deadlines. The system is scalable and can be implemented in schools, colleges, and training institutes. Overall, Learn Smarter With AI simplifies the learning process by integrating technology with education, offering a structured, user-friendly, and reliable solution for smart digital learning*

Keywords: *Learn Smarter*

I. INTRODUCTION

In today's digital age, technology has significantly transformed the education system, making learning more accessible and flexible. Traditional classroom methods, while effective, often face challenges such as limited access to resources, fixed schedules, and lack of personalized attention for students. With the rapid growth of online platforms, there is a need for smarter systems that can enhance learning experiences and improve academic performance.Learn Smarter With AI is an intelligent web-based learning platform designed to provide a modern approach to education. The system enables students to access study materials, video lectures, assignments, and quizzes anytime and from anywhere. By integrating artificial intelligence, the platform offers personalized learning recommendations based on user performance, helping students focus on their weak areas and improve effectively.The application allows users to register, securely log in, enroll in courses, and track their progress through interactive dashboards. Teachers and administrators can manage course content, upload materials, create assessments, and monitor student performance efficiently. This reduces manual work and ensures better organization of academic activities.Security and data management are important features of the system.

II. RELATED WORK

In recent years, digital learning platforms have significantly transformed the education system by providing flexible and accessible learning opportunities. Popular platforms such as Coursera, Udemy, and Khan Academy offer a wide range of online courses, video lectures, and assessments. These platforms allow learners to study at their own pace and access high-quality educational content from anywhere. However, most of these systems follow a generalized learning approach and provide limited personalization based on individual student needs.Several research studies have proposed web-based e-learning systems developed using technologies like Java, PHP, and ASP.NET. These systems typically include features such as user registration, course management, content delivery, and online examinations. While they

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 4, April 2026 Impact Factor: 8.2

help in maintaining structured academic data and improving accessibility, they often lack intelligent features such as adaptive learning, personalized recommendations, and real-time performance analysis.With advancements in Artificial Intelligence, modern educational systems are gradually integrating AI techniques to enhance the learning experience. AI-based systems can analyze user behavior, track progress, and recommend suitable learning materials based on individual performance. Some applications also use machine learning algorithms to provide automated feedback, smart assessments, and predictive analysis of student outcomes.Mobile learning applications have also gained popularity due to the increasing use of smartphones. These applications provide convenience, real-time notifications, and interactive interfaces, making learning more engaging. However, many existing mobile apps still focus on content delivery rather than intelligent learning support.Despite these advancements, there remains a gap in developing a fully integrated AI-powered learning platform that combines personalized recommendations, performance tracking, and smart content delivery in a simple and user-friendly system.The proposed project "Learn Smarter with AI" aims to address these limitations by incorporating artificial intelligence to provide personalized learning paths.

III. LITERATURE REVIEW V. PROPOSED SYSTEM OVERVIEW

Authors: A.Verma, K.Singh
Explanation: A web-based e-learning system developed using Java technologies that provides course management, quizzes, and user authentication. The system helps in organizing academic content and tracking student activities efficiently. Additional Issues: Lacks AI-based personalization and adaptive learning features.

Authors: P.Nair, M.Kulkarni, T.Joshi
Explanation: A digital learning platform offering video lectures, notifications, discussion forums, and performance tracking. It improves communication between students and teachers and supports remote education.
Additional Issues: Does not include intelligent recommendations or AI-based analysis.
Authors: Platforms like Coursera, Udemy, Khan Academy Explanation:These platforms provide online courses, video lectures, and assessments, allowing users to learn anytime and anywhere. They enhance accessibility and flexibility in education.
Additional Issues: Limited personalization and lack of adaptive learning based on individual student performance.
Authors: ariousResearchers(2023–2025)
Explanation: AI-based systems analyze user behavior, track learning progress, and recommend suitable study materials. They use machine learning for smart assessments and performanceprediction.
Additional Issues: Most systems are not fully integrated into a single platform and lack user-friendly implementation.

IV. PROBLEM STATEMENT

In today's digital age, students have access to a vast amount of learning resources, but the absence of intelligent guidance often makes learning inefficient and unstructured. Many students struggle to identify the right study materials, manage their time effectively, and understand complex concepts without personalized support. Traditional learning systems and existing online platforms provide static content without adapting to individual learning needs, which can lead to confusion, reduced engagement, and poor academic performance. Additionally, there is a lack of integration between study materials, performance tracking, and personalized recommendations. Students often rely on multiple platforms for notes, videos, and practice tests, resulting in fragmented learning experiences. Teachers also face challenges in monitoring student progress effectively and providing customized feedback.
The "Learn Smarter with AI" system is an intelligent learning platform designed to improve the educational experience through personalization and automation. The system provides a user-friendly interface where students can register, access study materials, attempt quizzes, and track their academic progress.Using Artificial Intelligence, the platform analyzes student behavior, performance, and learning patterns to recommend relevant study content and generate adaptive quizzes. It helps students focus on weak areas and learn more effectively. The system also provides real-time

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 4, April 2026 Impact Factor: 8.2

feedback and performance insights to enhance understanding.Teachers or administrators can upload study materials, manage courses, monitor student activities, and evaluate performance through dashboards and reports. The platform ensures secure data management and smooth communication between users.

V. SYSTEM ARCHITECTURE

The Learn Smarter with AI System follows a multi-layered architecture that integrates users, intelligent processing, and secure data management into a unified platform. The architecture is designed to provide personalized learning, efficient content delivery, and real-time performance analysis.

1. Modules

Student Module

In this module, a student can register and securely log into the system. After logging in, the student can access courses, learning materials, and AI-based recommendations. The system tracks the student's progress, quiz performance, and learning behavior. Students can also view personalized suggestions and monitor their improvement over time.

Educator Module

Educators create an account and manage learning content within the system. They can upload study materials, create quizzes, and monitor student performance. The system provides insights into student progress, helping educators identify weak areas and improve teaching strategies.

AI Recommendation Module

This module analyzes student data such as learning patterns, quiz results, and activity history. Based on this analysis, the system generates personalized recommendations, including suitable courses, topics for revision, and practice tests. It helps in improving learning efficiency and outcomes.

Admin Module

The admin manages the overall system. This includes user management, content approval, monitoring system activities, and maintaining security. The admin ensures smooth functioning of the platform and handles any technical or user-related issues.

1. Backend Architecture (Firebase Integration)

The system uses Firebase services to manage authentication, data storage, and content handling efficiently:

Firebase Authentication Ensures secure login and identity verification for all users (students and educators). It supports email/password authentication and manages user sessions securely, preventing unauthorized access.

Firebase Database Stores structured data related to users, courses, learning materials, quiz results, and progress tracking. It enables real-time data access and synchronization, allowing users to view updates instantly.

Firebase Storage: Stores educational resources such as video lectures, PDF notes, assignments, and other learning materials in a secure cloud environment. It allows easy upload, access, and management of files.

2. Approval and Notification Workflow

• The educator uploads course materials, assignments, or quizzes into the system.

The admin reviews the submitted content to ensure quality, accuracy, and relevance.

If the content meets all requirements, it is approved and made available to students, and an approval notification is sent.

If the content does not meet the required standards, it is rejected, and a rejection notification is sent with feedback for improvement. The system updates the content status in the database and displays it to educators and students accordingly.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 4, April 2026
Impact Factor: 8.2

IMPLEMENTATION DETAILS

The implementation of the proposed Learn Smarter with AI Platform consists of four main steps: User Registration and Input, AI-Based Personalization, Content Management and Evaluation, and Notifications and Updates.User Input and Registration

Users (students and educators) register in the system by providing basic details such as name, email, and password. After logging in, students can select courses, set learning preferences, and interact with study materials, while educators can upload content and create quizzes. stored securely in the centralized Firebase database to ensure data integrity and

AI-Based Personalization

The system analyzes user behavior, learning patterns, and quiz performance using AI techniques. Based on this analysis, it provides personalized recommendations such as suggested courses, topics for revision, and practice tests to improve learning outcomes.

Content Management and Evaluation

Educators upload study materials, assignments, and quizzes into the system. Students can access the content, attempt quizzes, and submit assignments. The system evaluates performance and stores results for further analysis and tracking.

Notifications and Updates

The system sends notifications to users regarding course updates, assignment deadlines, quiz results, and recommendations. It also provides real-time updates on progress and performance, helping users stay informed and engaged.

History and Reusability

The system stores all past learning activities, including course enrollments, quiz results, performance records, and AI-generated recommendations for future reference. Students and educators can track previous progress, completed courses, and performance history, which helps in better learning planning anddecision-making.

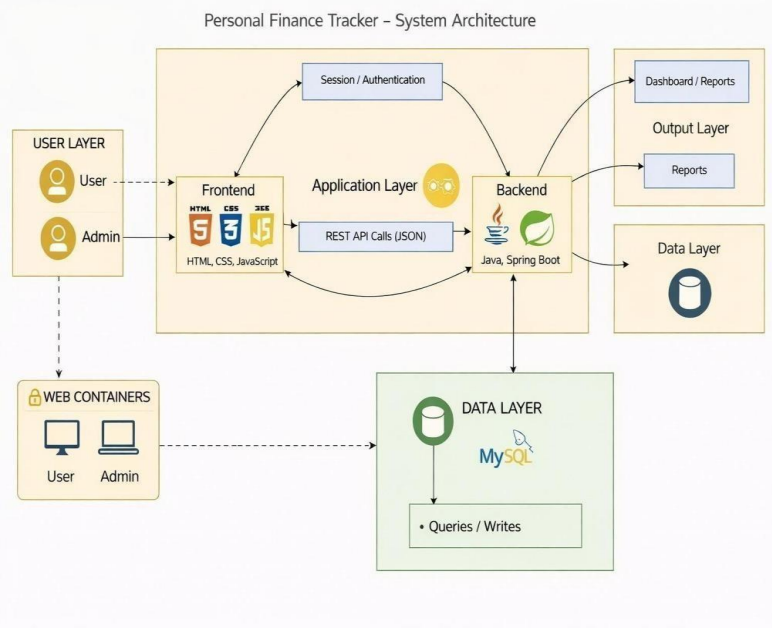


Figure 1: System architecture

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 4, April 2026
Impact Factor: 8.2

VI .PROPOSED SYSTEM

System Architecture :

System Architecture is shown in Figure1.

Our proposed system will function in following steps:

Step 1: User Registration

Students and educators register in the application by providing basic details such as name, email, and password. This creates a personalized account for accessing learning resources..

Step 2: Login & Authentication

The system verifies users through secure authentication mechanisms (such as Firebase). Only authorized users can access the platform and its features.

Step 3: Course Selection and Input

Students select courses, topics, or areas of interest. They can also interact with study materials, attempt quizzes, and provide inputs based on their learning preferences.

Step 4: AI-Based Personalization

The system analyzes user behavior, performance, and learning patterns. Based on this data, it automatically recommends suitable courses, topics for revision, and practice exercises.

Step 5 Educator/Admin Review

Educators or administrators upload and manage content such as study materials and quizzes. They review system performance and ensure the quality and accuracy of learning resources

.Step 6: Notification System

The system sends real-time notifications to users regarding course updates, recommendations, quiz results, and important alerts, keeping them engaged and informed.

VI. ANALYSIS OF PROPOSED SYSTEM

1. Enhanced Efficiency and Real-Time Communication:

The proposed Learn Smarter with AI System improves the efficiency, accessibility, and effectiveness of the learning process. By integrating web/mobile technology with a cloud-based backend, the system provides real-time updates and instant notifications to students and educators. This helps users stay informed about course updates, assignments, quiz results, and recommendations, reducing delays and improving overall engagement in the learning process.

2. Intelligent Personalization with Performance Analysis:

The system uses an AI-based recommendation engine to analyze student data such as learning patterns, quiz performance, and activity history. Based on this analysis, it provides personalized learning suggestions, including recommended courses, revision topics, and practice tests. This intelligent approach ensures better understanding and improves academic performance by focusing on individual learning needs. Educator monitoring adds an additional layer of guidance, ensuring that students receive accurate and effective learning support.

3. Secure Data Management and Accessibility:

The system ensures secure handling of user data through authentication and cloud storage. All academic records, study materials, and performance data are stored safely and can be accessed anytime from anywhere. This improves flexibility and ensures data reliability.

4. Improved Decision-Making and Learning Outcomes:

With features like dashboards, reports, and performance analytics, both students and educators can make better decisions. Students can identify their strengths and weaknesses, while educators can adjust teaching methods accordingly, leading to improved learning outcomes.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 4, April 2026
Impact Factor: 8.2

all data, and improves coordination among hospitals and healthcare providers. Overall, the system enhances organ donation efficiency, reduces waiting times for patients, and provides a secure, scalable, and user-friendly solution.

5. MODULES

The Learn Smarter with AI system includes modules for user management, learning, assessment, AI recommendations, analytics, notifications, and data handling. These modules work together to provide a smart, personalized, and efficient learning platform..

1. User Management Module

This module handles registration and login for students and educators. Users can create accounts, securely access the system, and manage their profiles. It also controls user roles and permissions to ensure proper access to system features.

1. Learning and Course Module

This module allows students to enroll in courses and access study materials such as notes, videos, and assignments. Educators can upload and organize content, making learning resources easily available to users anytime..

1. Assessment and Quiz Module

Students can attempt quizzes and submit assignments through this module. The system evaluates performance and stores results, helping track learning progress and understanding of different subjects.

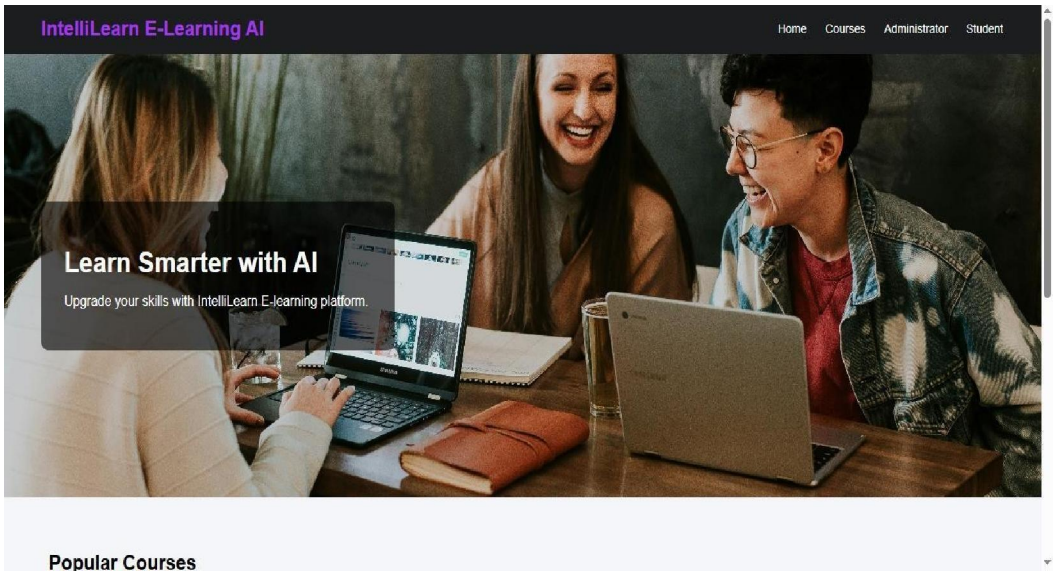
1. AI Recommendation Module

This module analyzes student behavior, learning patterns, and performance data. Based on this analysis, it suggests personalized learning content, revision topics, and practice tests to improve academic performance.

2. Notification Module

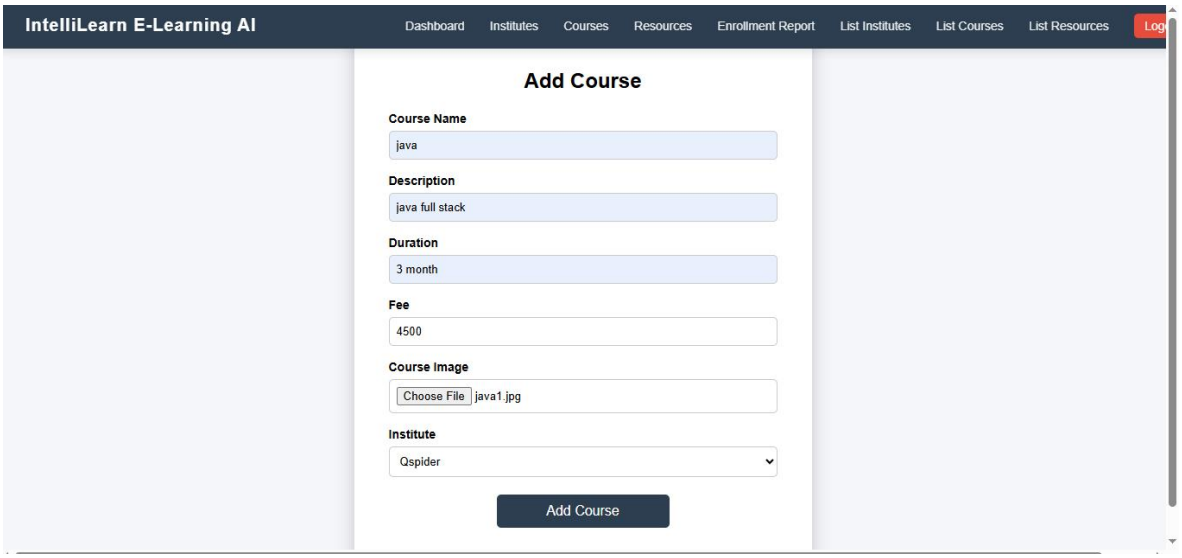
The system sends real-time notifications about course updates, deadlines, quiz results, and recommendations. This keeps users informed, engaged, and helps them manage their learning activities efficiently.

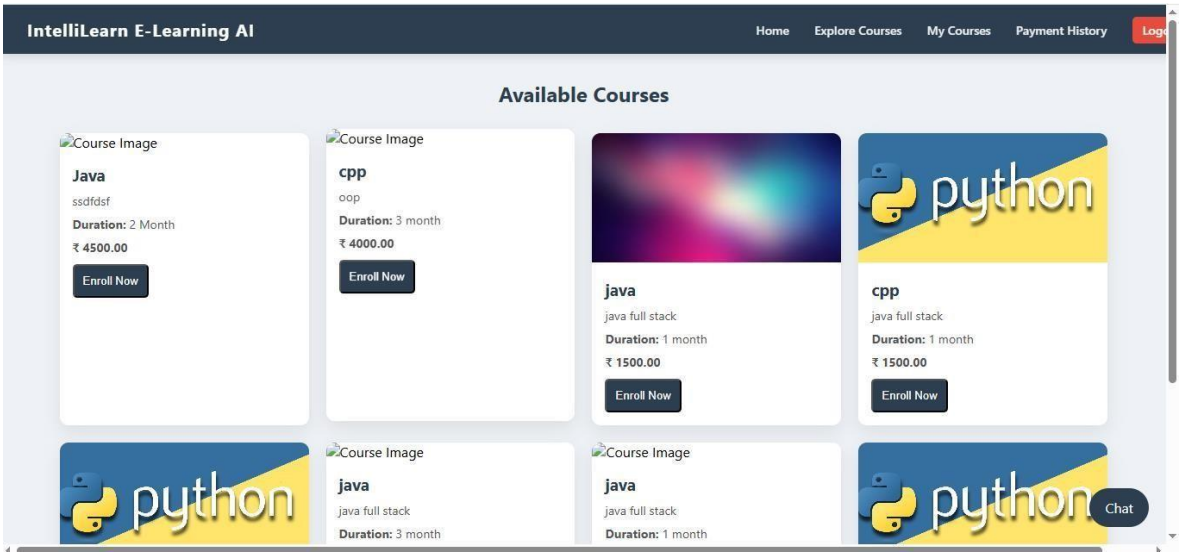
RESULTS



LOGIN PORTAL & USER LOGINS

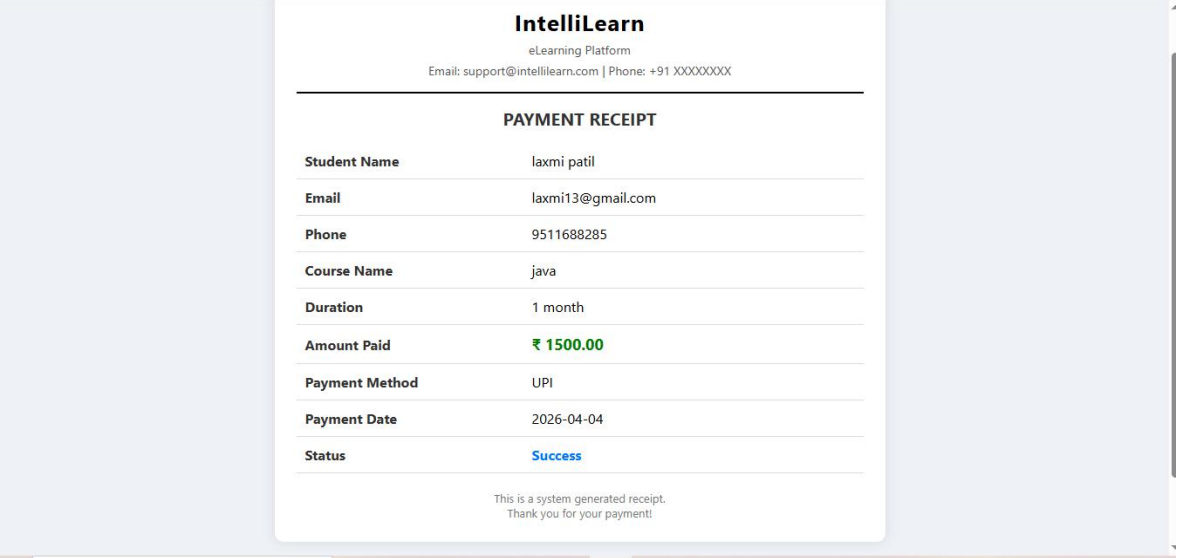
IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 4, April 2026
Impact Factor: 8.2





DOI: 10.48175/IJARSCT-32636

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 4, April 2026
Impact Factor: 8.2



IntelliLearn

eLearning Platform

Email: support@intellilearn.com | Phone: +91 XXXXXXXX

PAYMENT RECEIPT

Student Name	laxmi patil
Email	laxmi13@gmail.com
Phone	9511688285
Course Name	java
Duration	1 month
Amount Paid	₹ 1500.00
Payment Method	UPI
Payment Date	2026-04-04
Status	Success

This is a system generated receipt.
Thank you for your payment!

VI .CONCLUSION

The Android-Based Organ Donation Platform provides a reliable and efficient way to connect donors, recipients, and doctors. By maintaining accurate donor and recipient information, the system reduces delays in organ matching and ensures medical safety. Real-time notifications and secure data management improve communication and transparency among all users. Overall, this platform en- hances the organ donation process, supports hospitals in managing transplants, and increases the chances of saving lives through faster and safer organ matches

REFERENCES

[1]. "Life Saver – The Organ Donation Application" – S. Manwatkar, R. K. Choudhary, P. Walokar, S. Iyer, A. Karadbhajne, H. Nimavat. This research presents a mobile application designed to support organ donation activities and improve communi- cation between donors and patients.

[2]. "Organ Donation – An Android Based Application" – P. Kadam, P. Damkondwar, V. Gadekar, S. Khodwe, A. Sahane.

[3]. The paper discusses the development of an Android appli- cation that helps manage organ donor registration and fa- cilitates the organ donation process.

[4]. Firebase Documentation – Provides detailed information about Firebase services such as Authentication, Firestore, Realtime Database, and Cloud Messaging used in applica- tion development. https://firebase.google.com/docs

[5]. Material Design Components – Provides UI design princi- ples and ready-to-use components for developing modern Android applications.

[6]. Kumar, A., & Clark, M. – Kumar and Clark's Clinical Medicine, 10th Edition, Elsevier, 2020. This book explains medical concepts related to organ transplantation, donor-recipient matching, and clinical guidelines.

[7]. Matas, A. J., & Smith, J. M. – Handbook of Organ Trans plantation, 3rd Edition, Springer, 2018. It focuses on organ donation procedures, transplantation immunology, and ethical considerations.

[8]. Java Documentation – Offers official guidelines and explantions of Java libraries and tools used in backend log- ic and application programming. https://docs.oracle.com/en/java/

[9]. Android Developer Guide – A complete guide for designing Android applications, building user interfaces, and inte- grating Firebase services. https://developer.android.com