INFORMATION TECHNOLOGY UNIVERSITY

StayMate

ITU

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YOUR SMART CLOUD-NATIVE HOUSING PARTNER

Connecting Students with Affordable Hostels & Mess Services using AWS Serverless Architecture

Problem Statement

Students face challenges finding affordable accommodation (hostel & mess); manual visits and unverified contacts are inefficient and time consuming.

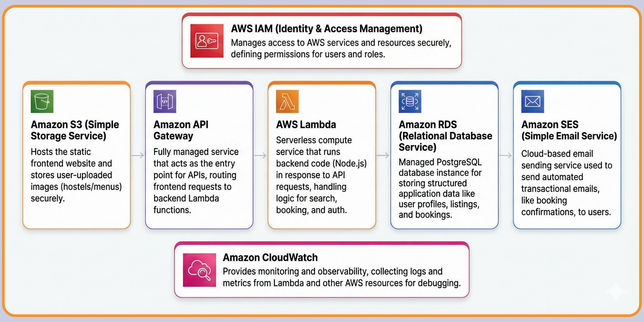
The Solution

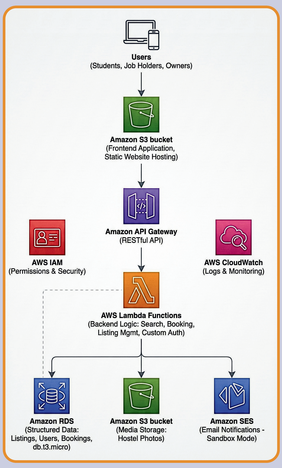
A centralized, serverless web platform on AWS bridging Guests and Service Providers for seamless housing solutions.

Workflow

1. Register (User Profile)
2. Search (Smart Filtering)
3. Book (Instant Confirmation)
4. Email Confirmation (AWS SES Notification)

Innovation & Technical Depth





Methodology

Design: Modeled a Serverless 3-Tier Architecture and relational database schema.
Backend: Deployed Node.js APIs on AWS Lambda using Amazon RDS (Data) and SES (Email).
Frontend: Built a React.js interface hosted on Amazon S3, connected securely via API Gateway.
Validation: Verified end-to-end functionality from user login to booking confirmation.

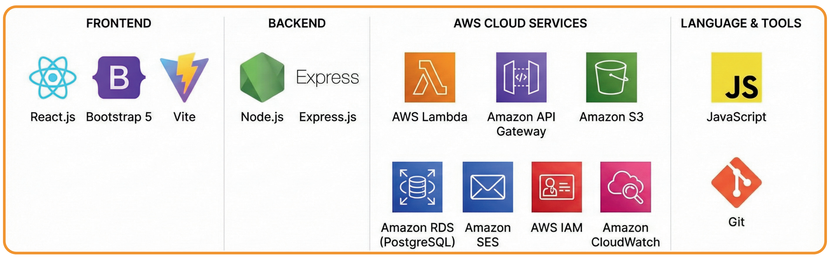
Tools & Features

Guest

1. Smart search with filters
2. Instant Booking with real-time availability

Owners

1. CRUD operations for listings
2. Secure Image Uploads
3. Comprehensive Dashboards for management



Conclusion

StayMate successfully implements a Serverless Cloud Architecture to solve student housing challenges. By utilizing AWS Lambda, API Gateway, and RDS, the platform achieves scalability and security without the cost of traditional server management. This project stands as a blueprint for building modern, high-performance cloud applications efficiently on a limited budget.