



Case Study

Uttar Pradesh National Health Mission NHM, UP

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Introduction:

National Health Mission (NHM) Uttar Pradesh had a limited, on-premises attendance system until it switched to a comprehensive cloud-hosted HRMS on Amazon Web Services (AWS) as an effort at modernizing and streamlining its human Resource management processes. This case study seeks to explore NHMs challenges with the old system, the remedies put into place and how this new HRMS changed everything for the department in terms of efficiency and productivity.

Problem Statement:

The existing attendance system at NHM Uttar Pradesh was inadequate as it covered only about 5% of what is expected from an HRMS.

The key problems included:

1. **Fraudulent Activities:** The system could be manipulated into conducting fraudulent transactions such as proxy attendance.
2. **Fake Attendance Marking:** The absence of proper verification methods made it easy for people to register for work even if they were not there at times when their presence was required.
3. **Limited Capacity:** This could accommodate only 2000 employees' attendance records which was still lesser than the number needed by increasing staff count. This led to low productivity levels, inefficiencies in human resources operations, difficulties in maintaining accurate records and managing employee information.

Solution Implemented:

After conducting a comprehensive analysis of the existing system at NHM, we proposed a holistic cloud-based HRMS on AWS. The purpose of this solution was to automate and improve HR operations in NHM.

There are a few important aspects of new HRMS that include:

1. **Geolocation Fencing:** This is to make sure employees can mark their attendance within certain geographic areas.

2. Facial Recognition Technology: it serves accurately and securely for attendance marking, because it recognizes faces only.
3. Scalability Capacity: Providing provision for enrolling not less than twenty thousand employees which meets NHM's ever-increasing number of workforces.
4. The AWS Web Application Firewall (AWS WAF) has taken measures to counter popular web vulnerabilities as well as attacks that threaten the integrity and security of HRMS data.
5. We have applied **WAF** rules for NHM, such as

[Allow Indian IP,](#)

Rate limit,

Invalid Page Names,

Aws managed rules common rule set,

Aws managed rules amazon Ip reputation list,

Aws managed rules anonymous Ip list,

Aws managed rules known bad Inputs rule set,

Aws managed rules windows rule set,

Aws managed rules SQLi rulesets,

AWS Managed Rules Admin Protection Rule Set.

For NHM we had also used various other services of AWS like **CloudTrail** which is a service that enables governance, compliance, operational auditing, and risk auditing along with a service for monitoring and observability named Amazon **CloudWatch**. We implemented **AWS Backup** with daily and monthly backup schedules to ensure data protection and recovery.

Apart from the above functional services, AWS Identity and Access Management (**IAM**) was used for the security purposed which enables NHM to manage access to AWS services and resources securely. Using IAM, they can create and manage AWS users and groups, and use permissions (custom and AWS pre-defined policy's) to allow and deny their access to AWS resources

Results:

This data storage service has led to remarkable achievements in the Human Resource Management System (HRMS) hosted on the Cloud:

1. **More Secure:** Through geo-fencing and image recognition, fraud schemes and instances of false attendance have been minimized.

2. **Increase in Capacity:** The system is now able to accommodate 20,000 employees which will allow for expansion of NHM.
3. **Improved Efficiency:** By automating payroll management among other HR functions productivity increased tremendously
4. **Accurate Records:** Information related to employees kept at one place always available for immediate access
5. **Better Compliance:** Adherence to laws and regulations was guaranteed by this new system

Conclusion:

In order to change NHM Uttar Pradesh's human resource activities in a significant way, they moved from having only part-time attendance systems within their premises towards comprehensive cloud-hosted HRMS on AWS. By dealing with what was inadequately catered for before and crafting plans that are credible yet robust scalable very effective solutions; it resulted in improved employee efficiency, safety as well as satisfaction. This change emphasizes how important it is to have an all-inclusive HRMS if you want to manage a large dynamic workforce like NHM does since this would serve as an example for other healthcare institutions and beyond.