



# **Smart Advertisement Management & Distribution**



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Innovature Consulting Services implements **'Smart Advertisement Management & Distribution Platform'** for a Japanese company in the business of digital advertisement distribution.

## Project Overview

Digital Signage is a platform offering smart advertisement management and distribution, with reporting capability. The Advertisement Management Application which was developed, had a smart 'face tracking feature', where the advertisement plays only if the person's face appears in



front of the device camera. Further the advertising content is selected based on the person's age and gender, making the ad relevant to the target audience. The Advertisement Distribution Platform consists of two applications. The first is a Web Application to upload ads, schedule ad content and show analytic reports, based on the count of ad views. The second is an iOS & Android Application to display content on iPad, Android Tab/TV. The display

devices are typically placed in saloons, cabs, trains, elevators, smoking rooms and retail outlets, where the advertisement is intended to be served.

## Business/ Technical Challenges

**Optimization of Face-tracking :** Face-tracking or Eye-tracking in the iOS and Android signage required a lot of fine-tuning to optimize the feature. This was dependent on multiple factors - device OS version, users' angle of view, surrounding light etc.

**Handling Large Data :** Advertisement content play log is generated by the device every second, leading to huge data volumes which had to be processed quickly, for detailed reporting in the Web Application. The system performance levels needs to be high to send logs to server continuously, without failure.

**Device Stability:** The tracking devices had issues like frequent internet connectivity problems and application crashes. This was due to non-stop running of application across devices, handling large view logs, and memory leak in the device



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*We had to build an enhanced version as the existing platform had limitation; in terms of tracking the device status, measuring live advertisement views, reporting view count etc. The new Smart Platform required incorporation of the Face-tracking or Eye-tracking feature, to deliver the ad relevant to the audience. This was an advanced feature in the market, which we had to explore and quickly introduce in the platform.*

## Technologies/Platforms Used

Application Type	Web Application/ iOS/ Android
Development Language	Java, Swift, Java
Database	MySQL/ SQLite
Platform	Linux/ Apache
Frameworks/ Services	Java Spring Boot, Angular, AWS

## Implementation Approach

Agile methodology was followed to manage frequent changes, ensure continuous delivery, and early detection of issues. There was an implementation plan for each stage and approvals were taken from customer,. There was a mechanism to review the output periodically. The Web Application integrated MySQL database and Java as development language, while the Advertisement Delivery Application integrated SQLite database, using Swift (iOS) and Java (Angular) as development languages.

## Business Benefits & Key Features

**Relevant Ad Content:** The Web Application played advertisement content based on the audience interests and demographics including age, gender etc. This led to an increase in ad views by 70% and a lift in engagement levels by 95%.

**Platform Stability:** The platform was tested and found stable, especially for non-stop running of the application without crashes. The Face-tracking feature was found to work adequately in low environment lighting.

**Reporting Dashboard:** Different type of analytics reports were generated based on the advertisement view counts. This includes live ad view metrics. weekly/ monthly ad view statistics, audience interest reports.

## About Innovature



Innovature provides IT consulting to various industry segments like retail, utilities, media & entertainment, energy etc and leverages AI, RPA and block chain technologies to deliver business growth. ISO certification reinforces its pole position globally in the field of information security, as largescale data is processed for effective decision making. Innovature has for more than a decade expertly steered its clients worldwide towards innovative products and services for their digital transformation. It has a track record of successful execution of more than 600 projects for nearly 100 organizations across the world. For more information, please contact our consultant [in-sales@innovature.ai](mailto:in-sales@innovature.ai)