Tara – Talent Management and Creativity Management Portal

Project Team 13

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Abstract

The Indian Media and Entertainment (M&E) industry is a growing sector for the economy and has made aggressive progress made thus far. Since 2000, the industry has been largely driven by the Internet and digital media. The Internet has almost become a mainstream media for entertainment for most of the people. Despite of the strength in number and revenue generated of the film and media industry it highly how much inter-person networking occurs. Tara is a platform solution that facilitates the networking between budding talents and event production teams. In this current situation, for managing different creativity projects people are depending on various platforms to manage one single project. In the current use case, they use many files and have n number of schedules and events from multiple platforms and this leads to lots of repetitive, confusing and missed out details. Here is where the idea for Creativity Management was included into TARA Talent Management system. Tara Talent management system is the perfect solution to problems faced by recruiters and recruited in complex industry of entertainment. Tara is a real-time entertainment-industry brand aimed at connecting local performing talent, with a special focus on casting, job opportunities, and much more. Similarly, Tara Creativity Management System is the is the perfect solution to manage all projects and tasks related to the tasks under a single platform with no switching between different applications to manage one single Creative Project.

I. INTRODUCTION

Movie industry is largest in terms of the number of films produced and the tickets sold. In a year, a total of with 3.5 billion tickets are sold in the world. In last few decades, India has consistently been one of the world's largest film producer. India is home one of the hottest movie industry of the world, Bollywood. Bollywood is derived from Bombay presently Mumbai. Due to globalization, digitization, fast paced life and continuously evolving life style media industry of India housed in Mumbai has a lot of potential. This has also been corroborated by industry experts as well. Indian population consume a variety of media content. These contents are delivered in variety of mediums – starting with newspaper, radio to screening 3D movies in IMAX screens. The Indian media has been a major employer for billion strong democracy. Close 5 million jobs are offered by media industry ranging from people running errands for celebrities to celebrities themselves. But in spite of the scale of this industry, many a talent get wasted due to various reasons. Some of the common reasons are - insufficient networking, logistical/financial problems that prevent the talented to approach production units, insufficient word-of-mouth propagation that identify talent. We want to solve this problem using Tara Talent Management System - which is a platform where Talent can meet talent recruiters or casting directors. Managing the creativity project with the collaboration of n different people and different applications to maintain different tasks and different files for different individuals. This is the problem we are trying to solve with Tara Creativity Management System where we are trying to bring in all these separate entities under one single roof where everything related to a creative project will be maintained as one single project in Tara Creativity Management tool.

A. Problem at hand

A Creativity project like Movies, short movies, Music videos involves use of many apps to track and have events from different platforms. In this case all the tasks were taken care of separately under different applications like:

1. Planning: Planning tasks in the project planning takes a lot of time as you have to chart all the essential steps. It is also hectic to maintain the sequential tasks.
2. Task Management: Every creativity project consists of many tasks that a person, or a team, must complete. Writing note about what your team member is doing is

sometimes not possible, particularly when it comes down to continuous projects that take a long time to complete.

3. Shared Documents and Calendars: Consider documents and files that are helpful, and they support storing and organizing of various documents. This is very important as most projects have a greater number of documents. By creating a centralized file storage plan, every member of the team can easily, and quickly, write and update. This feature is very important where the work is delegated to a person or a team. It is very easy to carry-out all the important operations without initiating hundreds of emails with attached files where, sooner or later, things become confusing.
4. Project Tracking: Tracking the time spent on every task is very important. It grants you the capability to collect data about the members of your team, to know their working speed. This will make planning of upcoming projects very easy. The team leader can then make estimations of the time taken.

B. Target Personas

1. Talents : These are the artists and backstage management crew who are looking for work or already working for a movie, theater, commercials, playback, and other media streams

2. Opportunity: These are the production teams which include the directors and recruiters who are looking to hire or has already hired the necessary talent and also the crew to complete their project

C. Our Mission

Our mission is to become the 'LinkedIn' for the target personas listed above – i.e., bring together Talen and Opportunity in the Entertainment and Performing Arts industries by means of a common platform - TARA. Also managing the Creative projects inside the same platform so that everything from hiring for the project and the project is managed under the same roof.

II. SYSTEM ARCHITECTURE - TARA

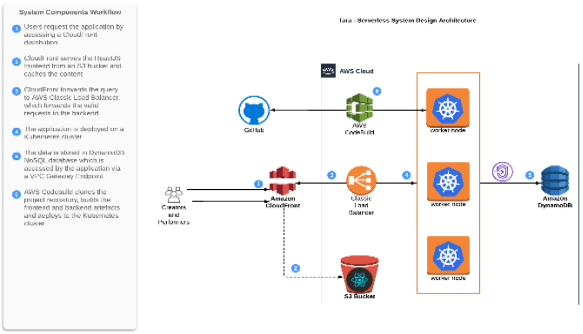

Fig1. TARA Talent Management System Architecture.

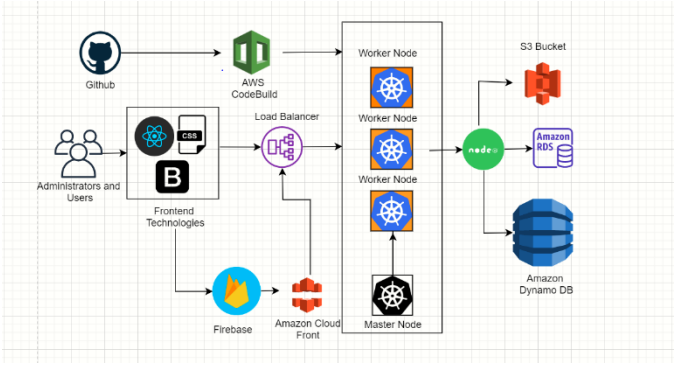

Fig2. TARA Creativity Management System built in integration with the Talent Management system.

A. *Architecture – Fig 2*

1. User requests the application by initiating a CloudFront distribution and login using and third party i.e Firebase Authentication service.
2. CloudFront works with the ReactJS for front-end coding.
3. CloudFront redirects the queries to AWS Classic Load Balancer, which forward the valid request to the backend code.
4. The app is deployed on Kubernetes clusters.
5. The data is stored in Dynamo database which is accessed by the app through a VPC Gateway Endpoint.
6. AWS Code build clones the project repository, builds the frontend and backend artifacts and deploys to the Kubernetes cluster.

B. Technology Stack

1. Cloud Native Architecture: The application is designed using cloud native technologies, like AWS. The authentication and authorization will be via third party social identity providers using Firebase Authentication. The stateless NodeJS servers will be running as Docker containers in an AWS ECS cluster. To provide global latency-free access to the application, the website will be served via a CloudFront CDN.
2. Backend Services: We will be using NodeJs APIs to fetch the values from the DynamoDB database. Since our application will render information on run-time, the non-blocking asynchronous nature of NodeJS will help us get good performance.
3. Data Layer: The data will be stored and accessed from a serverless NoSQL database DynamoDB. DynamoDB provides document and keyvalue oriented storage structure which will assist in storing and querying unstructured data.

4. Client Side: On the client side, we will make a ReactJS application. We are using ReactJS for the frontend as ReactJS is a light-weight library built over JavaScript, which doesn't re-render the entire DOM on change of components on the browser, rather it just re-renders the changed components. Hence ReactJS would improve application performance.
5. CI/CD: AWS CodeBuild is utilized to deploy the application to the AWS cloud. The build project integrates with the GitHub source code repository via webhooks and triggers a build process which compiles the frontend and backend code, deploys the frontend to the S3 bucket, invalidates CloudFront cache, builds the Docker image, pushes the built image to DockerHub, and finally deploys the backend to the Kubernetes cluster
6. Infrastructure Automation: Since Tara has a cloud-native serverless architecture, naturally there are ample amount of cloud resources to be created and managed. To ease this process, Terraform is used to codify the entire architecture with which the stack can deployed, modified or destroyed via code with zero manual intervention. This not only reduces the configuration errors that may arise while dealing with cloud resources, but it also helps to track the changes in the infrastructure over time by utilizing the Terraform state file.
7. Kubernetes: The backend is deployed to a Kubernetes cluster which abstracts away the horizontal scaling, container management, and canary deployments of the application.
8. CloudFront: Applications need to be globally available for maximum outreach. CloudFront helps to maintain cached contents across global edge locations assuring minimum latency to the users.
9. Swagger API Documentation: Modern web systems rely on REST APIs to communicate within microservices. Swagger helps to codify and document the API contracts between microservices and the client applications.

III. IMPLEMENTATION METHODOLOGY

Our Application is built on top of the already existing Talent Management System. We've built the Creativity Management System with Role Based Access Control Implementation. The key step in our application is to create and manage projects that is assigned to the users who can access the Projects on the basis of the Roles Assigned to them. The project involves different modules implemented.

A. Database Schema for TARA

The Database Schema was designed as below for the User and the Admin format Implementation.

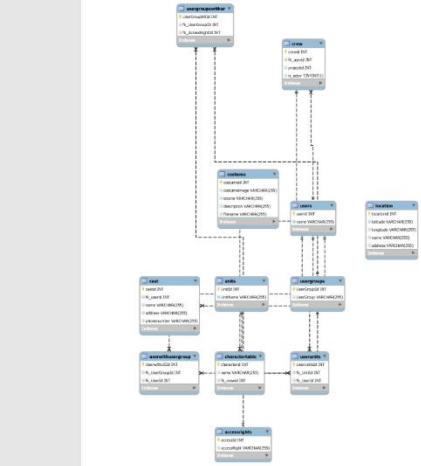

Fig3: Database Schema for TARA Creativity Management

B. Admin Module Implementation.

The following features are implemented in the admin module to enable Admin User to work with Creativity Management System.

1. Accept requests from new users or new admins.
2. Be able to create logins for New Users.
3. Create projects.
4. Create Contacts.
5. Create project from templates available.
6. Create new Project Templates.
7. Assign tasks to Users.
8. Create user groups and assign access rights.
9. Create tasks and events and assign them to them to respective users.
10. Check personal Calendar.
11. Upload Files.

C. Non-Admin User Module Implementation.

The following features are implemented in the User module to enable Non-Admin User to work with Creativity Management System. All the below functions can be carried out based on the Role based Access rights assigned to the users by an Admin User.

1. Create tasks and events.
2. Upload files to specific folders.
3. View their respective calendar events and tasks (ones assigned to them).
4. Update the task status once the task is completed.

D. Role Based Access Control Implementation.

Role Based Access Control or Role Based Security is an approach to restricting system access to authorized users. This authorization is specified by the Admin User in the system and this is defined while giving a user access to the system. It is implemented in out project as mentioned below.

1. Users in a specific user-groups are bound to some roles. Certain users have privileges to access some of the modules in the application.
2. User-groups are those where admin creates them inside each project, users are added into those user-groups.
3. Where these user-groups are defined by adding some roles to each group and whoever user is added into that user-group, they can have access to those access rights or roles of that user group.
4. Users can be removed from user-group or more users can be added and even the user-groups can also be edited by added more access rights.
5. For example, a costume designer for a project is added into Costumes user-group for that project by the admin. So, the user can control all the costume related modules in that project.

E. Creativity Management and talent management integration:

Here we tried to bring in Talent Management and the new Creativity Management App under one single roof to make it easier for the Opportunity and the Talent to take part in the recruitment and access the projects assigned to them once they are recruited.

The Talent Management system includes:

User:

1. Can Register/Login.
2. Create user profile.
3. Perform job/role match (apply for the job/role post).

Recruiter:

1. Register/Login.
2. Create job/role post.
3. Perform job/role match (inv or accept users that applied the job/role post).

The main implementation that brings both the Recruiting and the Management systems under one single roof is as follows.

1. Migrate users into Creativity Management app and preserve their user profiles and credentials.
2. Send talent match notifications to notify users.

Work done to bridge both the apps:

1. Decoupled development from cloud by adding local development option. Previous team was working purely on AWS code development environment. The database and services were shut down due to the limitation of using AWS education accounts. In this iteration, we have decoupled the development from the AWS cloud by added localized services such as DynamoDB and have created scripts and such to help setting up the local development environment.
2. Improved previous team's work by adding two-way matchings between recruiters and users. Both users and recruiters can be the initiators to perform a talent match and when both user and recruiter performed match, user will get a job matching notification email sent from talent management app and then user will be able to directly login to creativity management app.

IV. CONCLUSION

For Hiring Committee and also Producers of shows, money spent on getting the apt and right talent for their Creative Project is very high. In terms of money, on an average a Production Company/Hiring company is spends nearly 35M USD Yearly. In matter of time, a Producing Company invests around 40 days to find the perfect match for their project. For people and Job seekers, they are spending 1400 US Dollars yearly for applications, travels, food expenditure, portfolio making for the talents etc. In matter of time, they are investing an average of 50 days to get a good role in a project. And despite this, many times few are still left without jobs/roles. With TARA, we will be saving 50 days of job search and around 2800 US Dollars from Talents and 15 days of work and around 20 Million US Dollars Production Companies invest on hiring the right individual for the project. In addition to the money and effort saved, we will be saving the mental stress we will be making it easier for the Talents to find work without any relocations. Tara will be the perfect platform to reach out to as many recruiters as possible without the physical hassles and later manage Projects in the same platform once recruited.

REFERENCES

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