AI-based Event Management System

Sakthignana Sundaram Somaskandan  
Dublin City University  
Dublin, Ireland  
[sakthignana.somaskandan2@mail.dcu.ie](mailto:sakthignana.somaskandan2@mail.dcu.ie)

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ABSTRACT

1 INTRODUCTION

2 OBJECTIVES

There are several event management systems that provide attendees and organizers with tools to enable them to make the most out of an event. The systems include features such as:

1. Access to event information anytime and anywhere even without Wi-Fi or data services
2. Real-time push notifications
3. Mobile brochure that can make instant updates even during an event
4. Allowing attendees to personalize their schedule and set a reminder for specific shows/sessions
5. Enabling attendees to actively participate in each session, answer live polling and share their thoughts on the session feed
6. Networking by browsing attendee profiles
7. Setting up a website for the event
8. Event promotion
9. Ticketing system
10. Generate name badges

However, event organisers are still left to do their own research on finding the best location for an event and the products and services that would be required during an event. These features are made possible with the advent of AI, by building a recommender system that narrows down a set of places for an event based on previously held events. Additionally, better supply chain requirements can be forecasted based on the historical data.

How will it do it?

The system will have two value propositions and they are:

1. A recommender system that shortlists a handful of locations given an event type. The machine learning algorithm that will be used for this is an unsupervised learning technique called clustering.
2. Supply chain forecasting to predict demand for a set of products and services that are historically sold at a given type of event.

What constraints or limitations your system will have?

3 FUNCTIONAL DESCRIPTION

Give details of the techniques to be used.

3.1 A recommender system

The proposed recommender system uses the k-nearest neighbour approach to fetch and display the k nearest events for a new event. The similarity measure would be the event type/genre in the dataset. The dataset needed for the clustering algorithm would need to be compiled from the internet by using a variety of techniques like scraping and API usage to gather the required data. The data would need to be obtained from an event ticketing system like Eventbrite. However, the Activities dataset published by Fáilte Ireland can be used as a good starting point for the service. The data gathering phase is the most important, challenging, and time-consuming part of the process, as the quality of the data essentially dictates the success and the accuracy of the system. The following data points would be required:

1. Date/Time of event
2. Event type/genre
3. Event location
4. Number of attendees
5. Total location capacity
6. Amenities around the location
7. Event rating

Once a substantial amount of data has been collected, it can be fed into the algorithm to partition the data into k clusters with cluster labels being the event type. The feature set for the similarity measure will include the type, location, rating.

Upon successfully training the model, it can be used to output a specific number of previously held similar events which can then be ordered by the rating, the capacity, or the date/time of the event according to the user preference.

3.2 Supply chain forecasting

Include an analysis of the pros and cons of your design.

4 EVALUATION PLAN

Explain how the system would be assessed and evaluated.

5 DISCUSSION

How the system could form the basis of a successful business – or – a discussion of the architectural and system design aspects.

6 CONCLUSION

REFERENCES