Department of Computer Science & Engineering
The University of Texas at Arlington

System Requirements Specification
CSE 4316: Senior Design I
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Bits Please
OurScene

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Revision History

Revision	Date	Author(s)	Description
0.1	10.022.2023	HC,BC,VN,DP,ST	document creation

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1 Product Concept

This section describes the purpose, use, and intended user audience for the OurScene platform. OurScene is an online platform designed to revolutionize the local music ecosystem. Users of OurScene will be able to discover local music, book artists, track events, and more.

1.1 Purpose and Use

OurScene is designed to bridge the gap in the music industry by linking venues, promoters, artists, and fans. It provides a centralized system for scheduling events, booking artists, ticket management, and music discovery.

1.2 Intended Audience

The intended audience for OurScene includes:

- **Venues**: Looking for a streamlined system to schedule events and liaise with promoters and artists.
- **Promoters**: Interested in easily booking artists, managing ticket sales, and overseeing artist KPIs.
- **Artists**: Desiring a platform to showcase their talent, get booked for events, and connect with their fans.
- **Fans**: Seeking a comprehensive platform to discover local talent, purchase tickets, and track upcoming events.

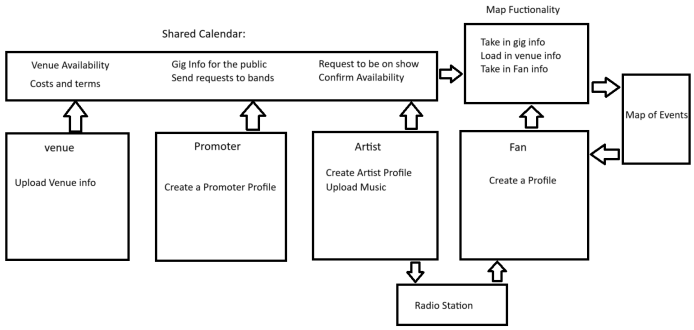

Figure 1: OurScene Basic Design

2 Product Description

This section provides the reader with an overview of OurScene. The primary operational aspects of the product, from the perspective of end users, maintainers, and administrators, are defined here. The key features and functions found in the product, as well as critical user interactions and user interfaces, are described in detail.

2.1 Features & Functions

OurScene offers a holistic suite of features:

- **Shared Calendar System**: Venues and artists can showcase availability.
- **Booking and Ticket Management**: Integrated system for ticket sales, purchasing, and scanning.
- **Music Uploads**: Artists can upload and share their songs.
- **Personalized Radio and Playlists**: Tailored listening experiences for fans.
- **Interactive Event Map**: Linked with Google Maps API for event discovery.
- **Key Performance Tracking**: Using data gathered about event performance.
- **Musical Promotion**: By allowing bands to increase playtime odds with in-app purchase.

2.2 External Inputs & Outputs

Name	Description	Use
Artist Availability	Dates when the artist is available	Calendar& Booking
Venue Dates	Dates of Venue availability	Calendar & Booking
Ticket Sales Data	Details of tickets sold and available	Ticket Management
Music Tracks	Uploaded tracks by artists	Music Discovery & Playlists
User Preferences	Genres, artists, and venue preferences	Personalized Radio & Content
KPI Tracking	Track KPI for artists, promoters, and venues	KPI Management
Band Promotion	Promotion for artists to increase odds of playtime on radio	Artists Management

2.3 Product Interfaces

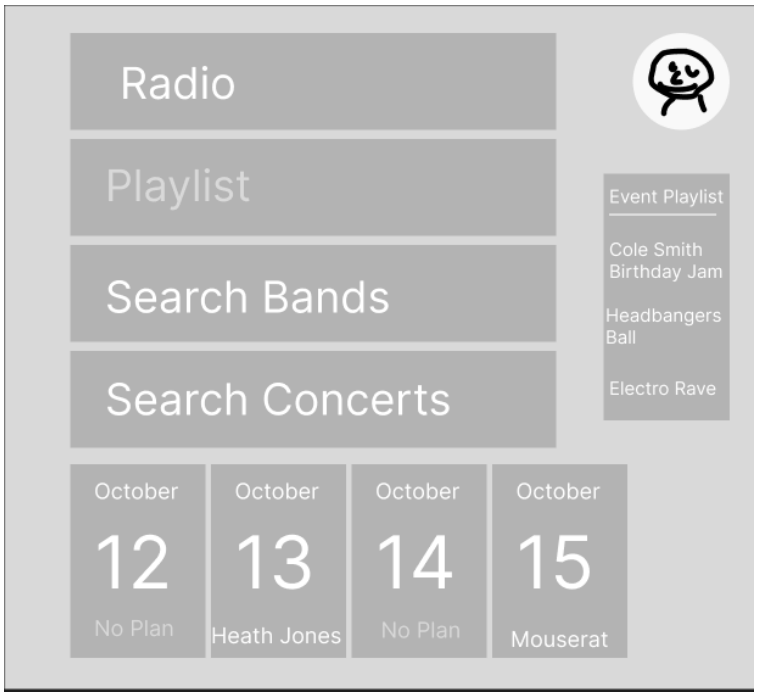

Figure 2: User Interface

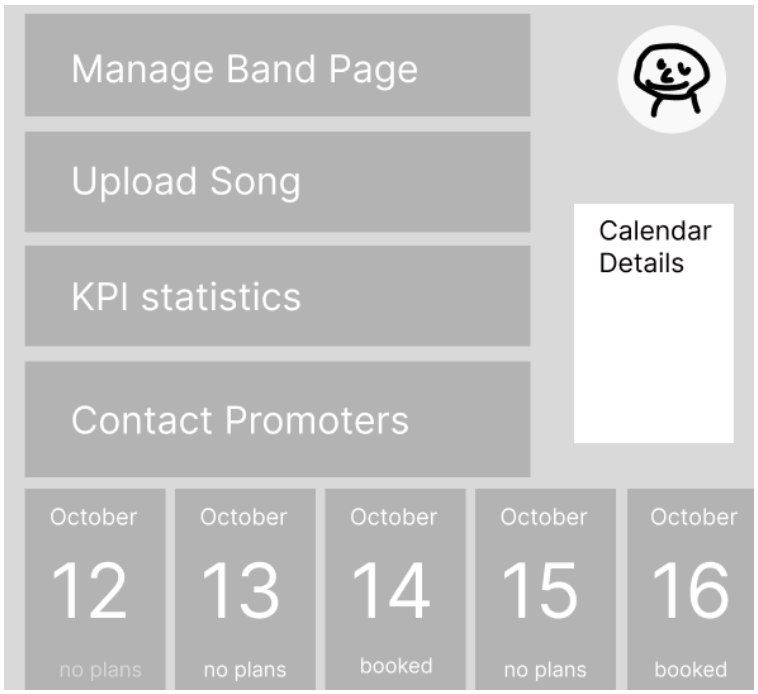

Figure 3: Artist Interface

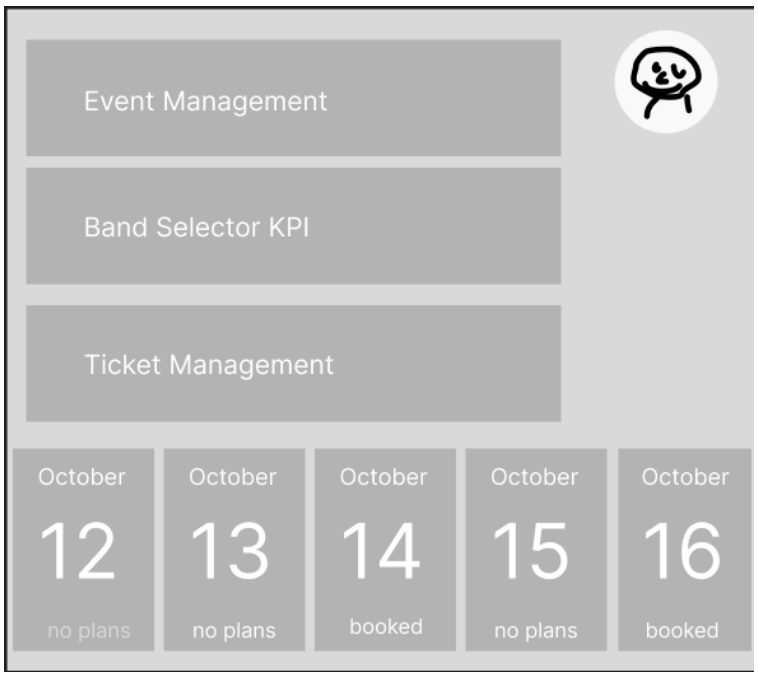

Figure 4: Promoter Interface

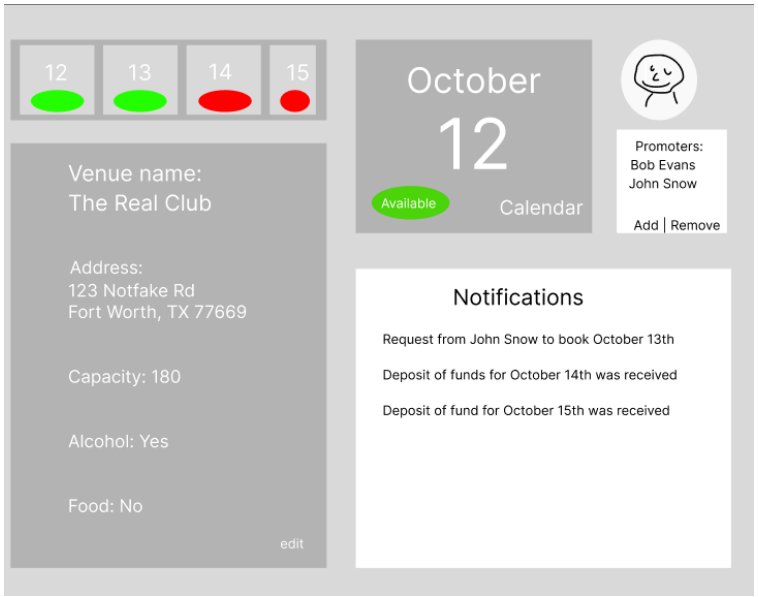

Figure 5: Venue Interface

3 Customer Requirements

"OurScene" is an application dedicated to revolutionizing the local music industry. The app is poised to be the ultimate platform for musicians, venues, promoters, and music enthusiasts, providing a comprehensive solution to simplify, enhance, and connect the vibrant world of local music. This document outlines the specific needs and expectations of our valued users, offering a comprehensive overview of the features, and user experiences we aim to deliver. By collaborating with our community of music

fans, artists, and all other stakeholders, we intend to craft an application that not only meets but exceeds the demands of this dynamic industry. Together, we will create a seamless, and interconnected music ecosystem that empowers all involved.

3.1 Shared Calendar

3.1.1 Description

The application will feature a shared calendar for every type of user on the site. It will be filtered by what classification the user is enrolled as (artist, promoter, venue, or fan) and be updated in real time to allow time slots to be shared throughout the site.

3.1.2 Source

Entire OurScene team

3.1.3 Constraints

High demand and traffic with the calendar by every user causing downtime or shutdown.

3.1.4 Standards

Not Applicable

3.1.5 Priority

- **Critical (must have or product is a failure)**

3.2 Music Player

3.2.1 Description

The artist page will include a feature to allow tracks to be played in order to increase exposure and recognition, this will include greater than 30 seconds of music,

3.2.2 Source

Entire OurScene team

3.2.3 Constraints

Copyright restrictions of playing music, as well as restrictions put in place by any music APIs used

3.2.4 Standards

The Fairness in Music Licensing Act of 1998

3.2.5 Priority

- High

3.3

3.3.1 Gig Playlist

The application will feature a playlist consisting of all artists performing during a gig organized by the promoter using the tracks uploaded by such artists in order to give potential attendees an idea of who they will be seeing either brand new or who will be performing with their favorite artist.

3.3.2 Source

Bryan Cox

3.3.3 Constraints

Copyright restrictions of playing music, as well as restrictions put in place by any music APIs used

3.3.4 Standards

The Fairness in Music Licensing Act of 1998

3.3.5 Priority

- Moderate

3.4 Voting System

3.4.1 Description

The fans can favorite or boost music from artists they enjoy to assist in their exposure to promoters and being booked for new gigs. This will be done using a determined algorithm.

3.4.2 Source

Entire OurScene team

3.4.3 Constraints

N/A

3.4.4 Standards

Not Applicable

3.4.5 Priority

- Moderate

3.5 Spotify API

3.5.1 Description

The music player requirement will utilize the Spotify API in uploading tracks to make ease to listen for users as well as potentially bypass restrictions of music licensing.

3.5.2 Source

Harrison Cawood

3.5.3 Constraints

Spotify restrictions, users not having an account, artist does not upload to Spotify

3.5.4 Standards

N/A

3.5.5 Priority

- Low

3.6 Gig Channel

3.6.1 Description

After a gig is booked by a promoter and artists are picked, a channel will be created including the gig playlist, and reroutes to all artists that are performing. Fans will be able to post about their excitement as well as learn more information about the show/venue.

3.6.2 Source

Entire OurScene team

3.6.3 Constraints

N/A

3.6.4 Standards

N/A

3.6.5 Priority

- Moderate

3.7 GUI Color

3.7.1 Description

The application will use a cohesive color scheme to be determined by stakeholders later.

3.7.2 Source

Harrison Cawood

3.7.3 Constraints

Collective agreement on color

3.7.4 Standards

N/A

3.7.5 Priority

- Moderate

3.8 Ticketing System

3.8.1 Description

Fans will be able to purchase tickets through the site to whatever venue is hosting the show they want to see. Tickets will be handled either through a secure API or a redirect to the venue's ticketing system.

3.8.2 Source

Harrison Cawood

3.8.3 Constraints

Security of financial information

3.8.4 Standards

More research needed

3.8.5 Priority

- Future

3.9 Search page

3.9.1 Description

All different types of users will be able to search on the site for either other artists, venues, promoters, etc. Allowing easier use and word-of-mouth exposure.

3.9.2 Source

Harrison

3.9.3 Constraints

N/A

3.9.4 Standards

N/A

3.9.5 Priority

- Low

4 Packaging Requirements

OurScene will be a web application accessible to users through the Internet. Upon opening the application, the user will be able to create an account depending on the type of user they are. Many features will be displayed on the page to allow the users to carry out their tasks within the application.

4.1 Accessibility through the internet

4.1.1 Description

OurScene will be published to the web server allowing users to access our web application via the internet.

4.1.2 Source

Vincent Nguyen

4.1.3 Constraints

The maintenance of the web application

4.1.4 Standards

N/A

4.1.5 Priority

- Critical

4.2 Users Account Creation

4.2.1 Description

Users will be able to create their own accounts on OurScene in order to save their actions and progress as well as to differentiate between different users

4.2.2 Source

Vincent Nguyen

4.2.3 Constraints

Maintaining updated information in databases

4.2.4 Standards

N/A

4.2.5 Priority

- Critical

4.3 Features are accessible to the users

4.3.1 Description

Users will be able to view and access the features on the web application after logging in.

4.3.2 Source

Vincent Nguyen

4.3.3 Constraints

N/A

4.3.4 STANDARDS

N/A

4.3.5 PRIORITY

- High

5 Performance Requirements

Our Scene will focus on three requirements. Data loss prevention, to ensure not only user data is safe, but to ensure services such as the ticketing system, work quickly and flawlessly. Speed, to ensure the user has a smooth experience and sees accurate information. Lastly, Accurate geo location services. Quick and accurate geo location services are critical to how the app will function and how users will interact with their "Scenes." Excelling in these three areas will solidify Our Scene as an application that is not only useful, but also fast, secure, and accurate.

5.1 Data Loss Prevention

5.1.1 Description

Our Scene will implement some form of DLP in order to not compromise user data. DLP is critical for the future implementation of a ticketing system and general security.

5.1.2 Source

Bryan Cox

5.1.3 Constraints

Data Loss prevention will largely depend on the architecture of the program as well as the budget for this requirement.

5.1.4 Standards

None.

5.1.5 Priority

Critical

5.2 Speed

5.2.1 Description

The system must demonstrate the ability to deliver music, shared calendars, and metrics within a reasonable amount of time, ensuring that all of these functions are executed efficiently.

5.2.2 Source

Daniel Palma

5.2.3 Constraints

Architecture of the application and budget are two constraints that will affect the speed of the product that can be controlled. User device and environment are constraints that can not be controlled that may affect the requirement.

5.2.4 Standards

Industry standard of two seconds for load time.

5.2.5 Priority

Moderate.

5.3 Geo Location

5.3.1 Description

The system must demonstrate the ability to quickly and accurately locate a user in order to ensure they are in the proper "Scene." Accuracy must be able to ping a user down to the zip code the user is in.

5.3.2 SOURCE

Daniel Palma

5.3.3 CONSTRAINTS

Architecture of the application, user environment, and user devices are three constraints that will affect the speed and accuracy of the geo location.

5.3.4 STANDARDS

Industry standard of two seconds for load time.

5.3.5 PRIORITY

Critical

6 Maintenance & Support Requirements

As OurScene gets launched into the open world, it is necessary that maintenance and support is maintained in order to ensure that the users are satisfied at all times. For instance, after launch if there are any bugs, or features that customers would like to see, our team will try any implement any functionality that will improve customer ratings. The way our team would go about handling maintenance and support is two ways with the first being us trying to catch any bugs or trying to better the application before any user mentions it, and second is of course the user's feedback. Once there is a process that is needed to be done, we as a team look at the issue and execute a plan to deliver the next update as fast as possible.

6.1 Requirement Name

Software Updates/bug fixes

6.1.1 Description

Continuous updates to the applications to either fix bugs or add additional features to improve customer satisfaction.

6.1.2 Source

N/A

6.1.3 Constraints

Due to all team members having different schedules, trying to organize a meeting may be tedious if it is not our regularly scheduled weekly meeting. Time is also another constraint as we have a set time period rather than an indefinite time period.

6.1.4 Standards

Organized code every update. Mentioning of bugs fixed or new additions every update. Group meeting every time a change is needed to get a group consensus.

6.1.5 Priority

Getting the maintenance and support done as fast and as effective as possible. Ensuring the customer is always happy.

7 Other Requirements

OurScene being a scalable application comes with more requirements in the future. Some of these requirements do not fit within the labeled sections bringing the need to document and include such requirements inside this section.

7.1 Database Configuration

7.1.1 Description

The database must be able to be reconfigured to include increased traffic and popularity of the application

7.1.2 Source

Harrison

7.1.3 Constraints

Cost of server space

7.1.4 Standards

N/A

7.1.5 Priority

- Moderate

7.2 Architecture redesign

7.2.1 Description

The architecture may be redesigned and must be done so with direct communication with the stakeholders and development team.

7.2.2 Source

Harrison Cawood

7.2.3 Constraints

N/A

7.2.4 Standards

N/A

7.2.5 Priority

- High

7.3 Mobile applicaion

7.3.1 Description

For future considerations, OurScene could expand to be downloadable and accessible in mobile devices as a mobile application. Mobile users would be able to utilize the same features provided as the web application of OurScene.

7.3.2 Source

Vincent Nguyen

7.3.3 Constraints

Maintenance of the application and possible limitations implementing OurScene into mobile devices.

7.3.4 Standards

The OWASP Mobile Application Security Verification Standard (MASVS)

7.3.5 Priority

- Future

8 Future Items

In this last section, you will reiterate all requirements that are listed as priority 5. This is repetitive, but necessary as a concise statement of features/functions that were considered/discussed and documented herein, but will NOT be addressed in the prototype version of the product due to constraints of budget, time, skills, technology, feasibility analysis, etc. Use the following format for this section.

8.1 Ticketing System

8.1.1 Description

Fans will be able to purchase tickets through the site to whatever venue is hosting the show they want to see. Tickets will be handled either through a secure API or a redirect to the venue's ticketing system.

8.1.2 Source

Harrison Cawood

8.1.3 Constraints

Security of financial information

8.1.4 Standards

More research needed

8.1.5 Priority

- Future

8.2 Mobile Application

8.2.1 Description

For future considerations, OurScene could expand to be downloadable and accessible in mobile devices as a mobile application. Mobile users would be able to utilize the same features provided as the web application of OurScene.

8.2.2 Source

Vincent Nguyen

8.2.3 Constraints

Maintenance of the application and possible limitations in implementing OurScene into mobile devices.

8.2.4 Standards

The OWASP Mobile Application Security Verification Standard (MASVS)

8.2.5 Priority

- Future