VibeQueue

Final Design iteration

Your Vibes, Managed - The Modern Jukebox for Local Spaces

Table of contents

Table of contents

Table of contents

Meet Our Team!

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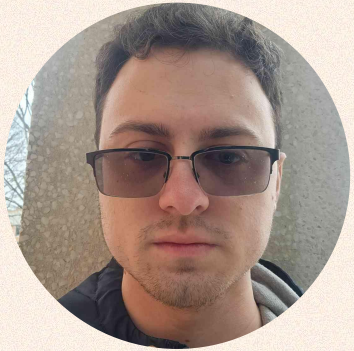

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Meet Our Team!

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Background

Have you ever walked into a restaurant, coffee shop, or even a gym and thought... “Wow, I wish I could listen to a certain song that I know will enhance the vibe!”

Resulting Problems

In the modern hospitality industry, atmosphere is important, but small cafes and restaurants struggle to manage their background music. It can also be a struggle having complaints coming in from multiple customers.

As a result, staff often handle requests manually, which is inefficient during busy times. At the same time, businesses miss out on customer engagement and potential revenue because there isn't an affordable, controlled, and legal way for customers to interact with the music.

Problem Statement

- Background music in a store influences the **atmosphere** and **customer satisfaction**
  - A study by MCR data shows that 41% of customers will spend more time and money in a business if they like the music (2021).
- Current options are either **expensive** and **hardware-specific** or **lack customization**.
  - Staff often handle requests manually, which is inefficient during busy times.
- Businesses miss out on **customer engagement** and **potential revenue**
  - there isn't an affordable, controlled, and legal way for customers to interact with the music.

Problem Characteristics

Bad Music

Leads to customers not returning.

Redundancy

Returning customers do not want to hear the same music over and over

Expensive

High-cost systems like Rockbot scare off businesses

Hardware

Competitors require proprietary hardware

Who is Affected?

Users

Want influence over the atmosphere, as well as, seamless - low friction interaction.

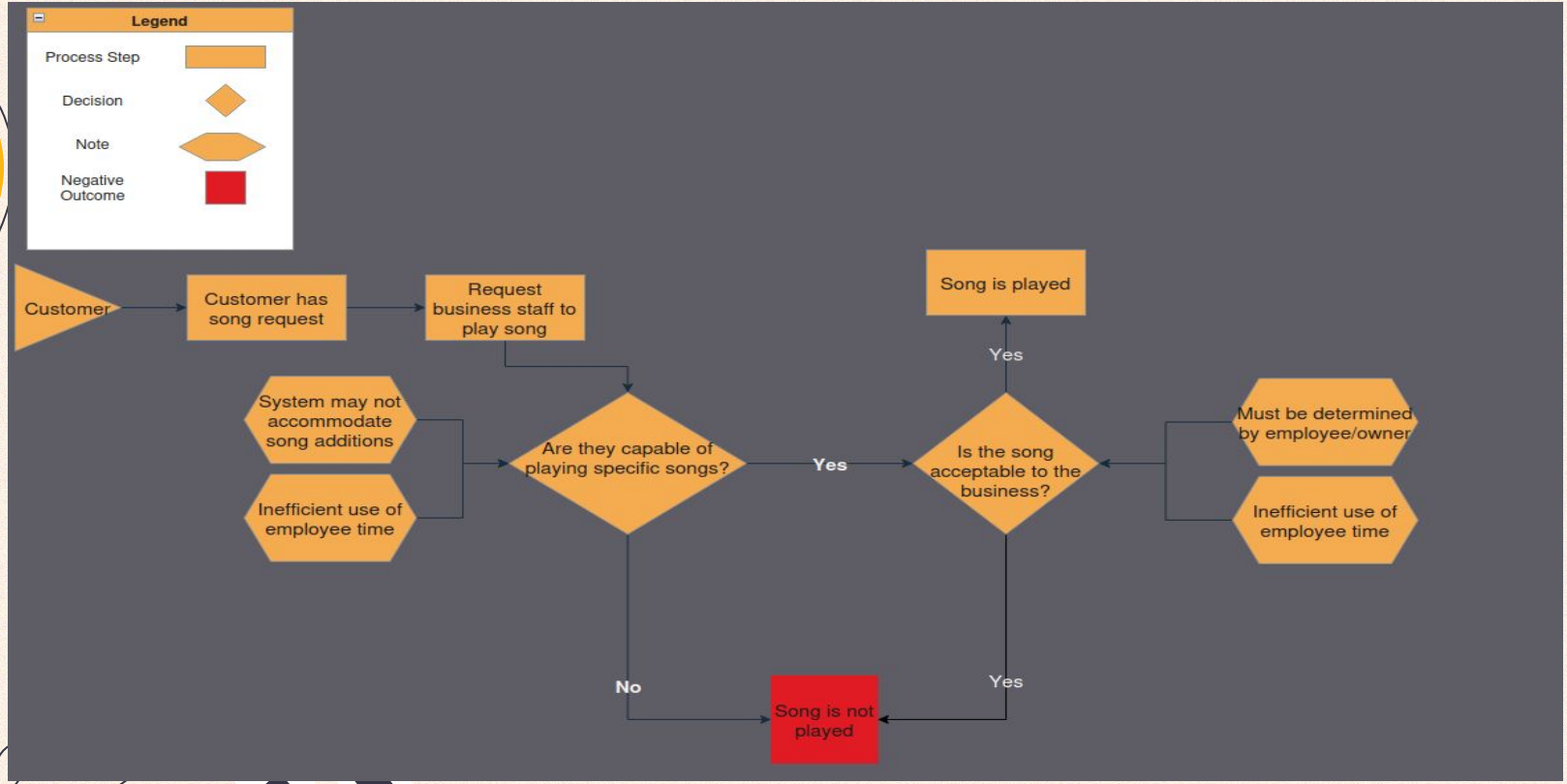
Businesses

Want increased engagement, without staff interruption.

Stakeholders

The artist, record labels, and music platforms (iTunes, Spotify, etc.)

Current Process Flow



Elevator Pitch

Imagine walking into your favorite local coffee shop, scanning a QR code on your table, and instantly being able to influence the vibe of the room. VibeQueue is a software-based solution that replaces expensive hardware with a seamless digital ecosystem. By connecting the Soundcharts API with SoundMachine, we provide a fully licensed, legal, and interactive music experience for small businesses.

What is a “vibe”?

“The mood of a place, situation, person, etc. and the way that they make you feel.” (Cambridge Dictionary)

Solution

- **A Web-Based Ecosystem:** VibeQueue automates music selection by providing a digital interface for customers to browse and request songs from their phones via QR codes.
- **Eliminates Manual Work & Hardware:** Removes the need for staff intervention and replaces expensive, proprietary hardware with a software-only solution.
- **Seamless API Integration:** Using SoundCharts' API to search for songs and gather their metadata to queue and request them through Soundmachine's API
- **Low-Cost & Interactive:** Offers an affordable "Vibe Management" tool tailored specifically for small-scale local spaces; differentiating from competitors with large physical consoles or higher costs.

Solution Mapping

Our **problems** v.s our proposed **solutions.**

Barrier to Enter: Commercial systems have a higher price than is feasible for many small businesses	Subscription based. VibeQueue is designed for small business groups operating on a more limited budget.
Limited User Experience: Rockbot has limited mobile access or is slower than customers want to use	Web-App: A Modern web-app allows for ease of customer use and high speed.
Atmospheric Clash: Owners may be concerned that customers will play a song that doesn't fit	The Control Center: Owners have a dashboard that allows them to restrict or manipulate the qualities of the songs chosen.

1,000 people

The size of the survey, US consumers, age demographics 21+

80%

Would stay longer if they heard good music playing.

60%

Would buy more food and drinks if they heard music they like.

"New BMI/NRG Study Confirms Consumers Eat, Drink & Spend More When Listening to Music"

Our “Gaps”

No “Staff” Gap

Automated Interaction: Direct-to-consumer web interface allows for song requests without interrupting staff, resolving the "social friction" gap.

The “Cost” Gap

Hardware-Agnostic Deployment: A software-only solution that runs on existing business devices (tablets/phones), removing the need for the expensive proprietary hardware required by TouchTunes or Rockbot.

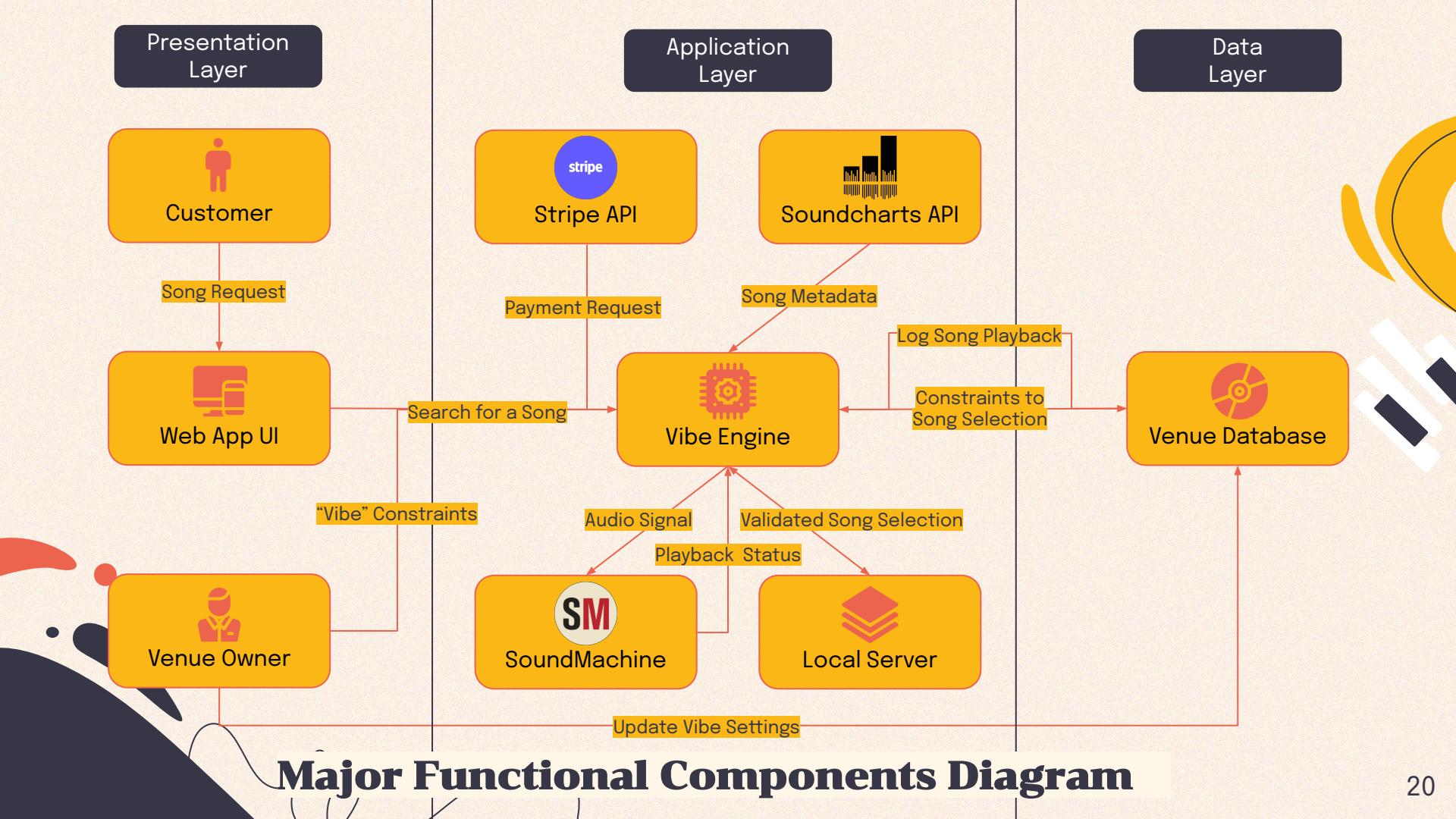
The “Control” Gap

Dynamic Vibe Moderation: Integrated filters and a "Business Control Center" allow owners to set genre limits and block explicit content automatically, ensuring the audio matches the establishment’s brand.

Competition Matrix

	Revenue share (for the business owner)	Hardware agnostic	Customer Song selection	App required
VibeQueue	67%	✔	✔	
TouchTunes	33-39%*		✔	✔
Rockbot	0%†		✔	✔

*Touchtunes share source: https://www.reddit.com/r/BarOwners/comments/1dkmvft/percent_taken_out_for_touchtunes/
†Rockbot Terms Of Service lists no revenue share with the customer (business): https://rockbot.com/subscriber-terms/



Major Functional Components Diagram

What is “metadata”?

“Metadata is information–such as author, creation date or file size–that describes a data point or data set.” (IBM)

What It Will Do

1 Easy Access & Song Selection

- QR Code Access
- Song Browsing & Requests
- Influence the Atmosphere

2 Provide Owner & Staff Control

- The "Business Control Center"
  - A dedicated dashboard for owners
- Dynamic Vibe Moderation
- Queue Management
- User Management

3 Generate a Revenue Stream

- Pay-to-Request
- Automated Payment Processing
- Profit Sharing
  - The business keeps the majority of the revenue. Vibe Queue takes a small 5% cut to sustain development.

4 Ensure Legal Compliance

- Hardware Agnostic
  - Runs on devices the business already owns (staff phones, existing tablets)
- Licensed Streaming
  - Ensures all music played falls under legal commercial licenses (ASCAP, BMI, SESAC),

What It Will NOT Do

1

Play music without licensing

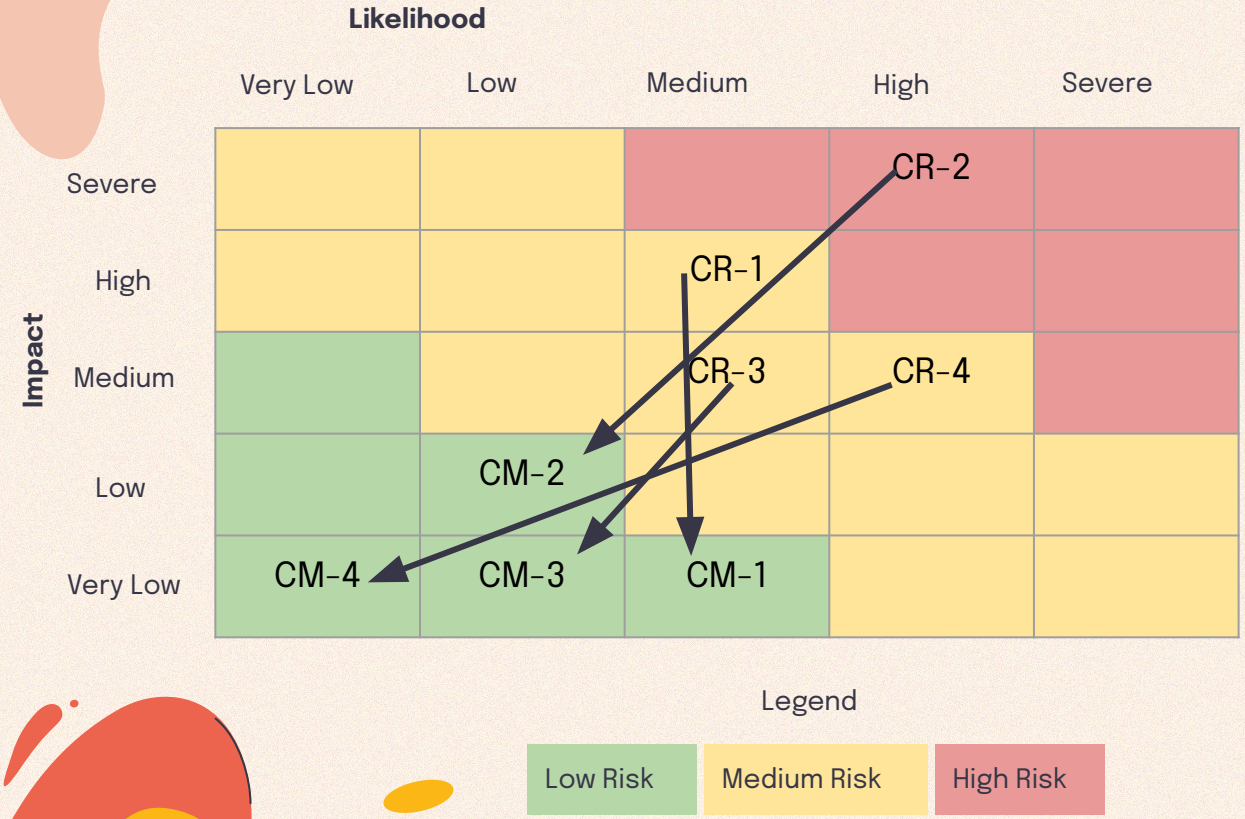
VibeQueue will not play any music that the business owner does not have the proper licensing to play.

2

Generate new music

VibeQueue will not generate custom songs for customers at this time.

Customer Risk



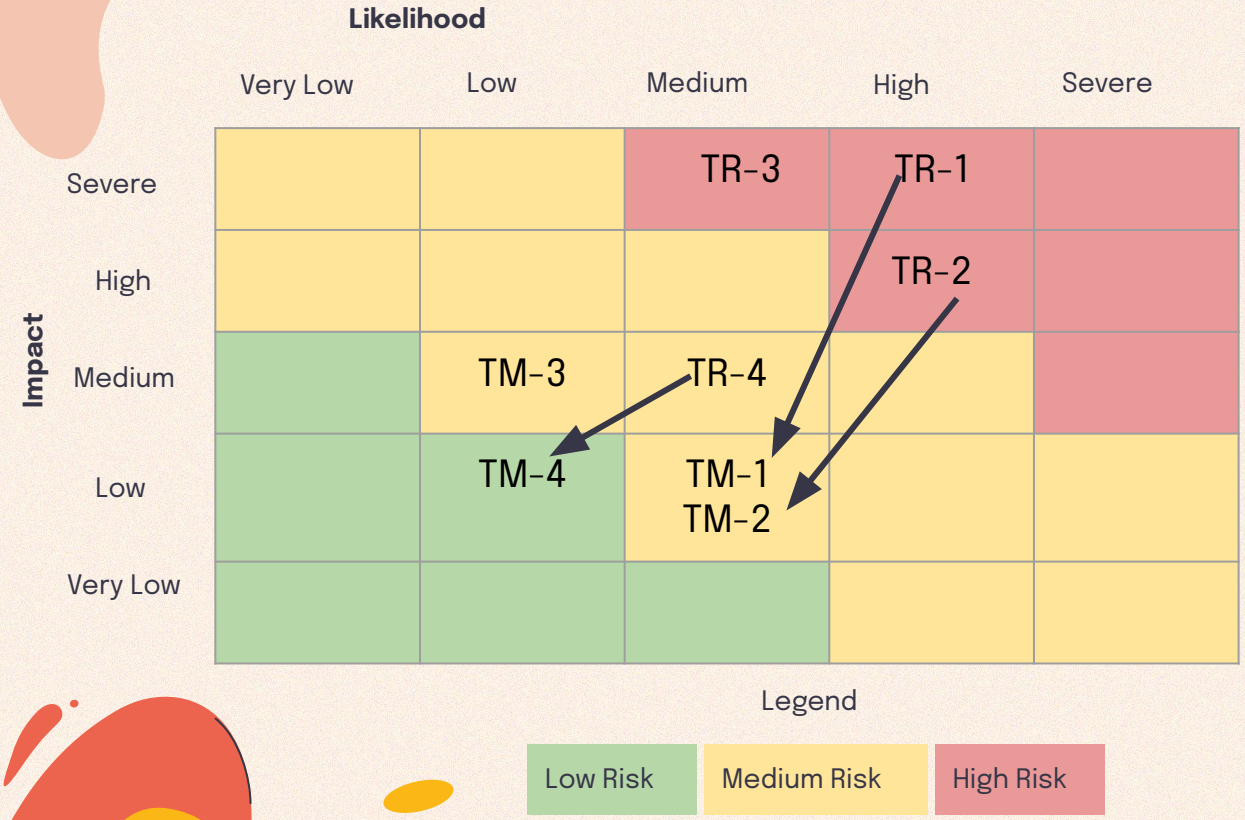
Risks

CR-1: Low engagement
CR-2: Customers selecting inappropriate songs
CR-3: Payment failures
CR-4: Users concerns about privacy

Mitigation

CM-1: Simple QR code access, incentives
CM-2: Explicit content filtering/ staff override
CM-3: Use trusted payment system (Stripe)
CM-4: Minimal data collection (no account required)

Technical Risk



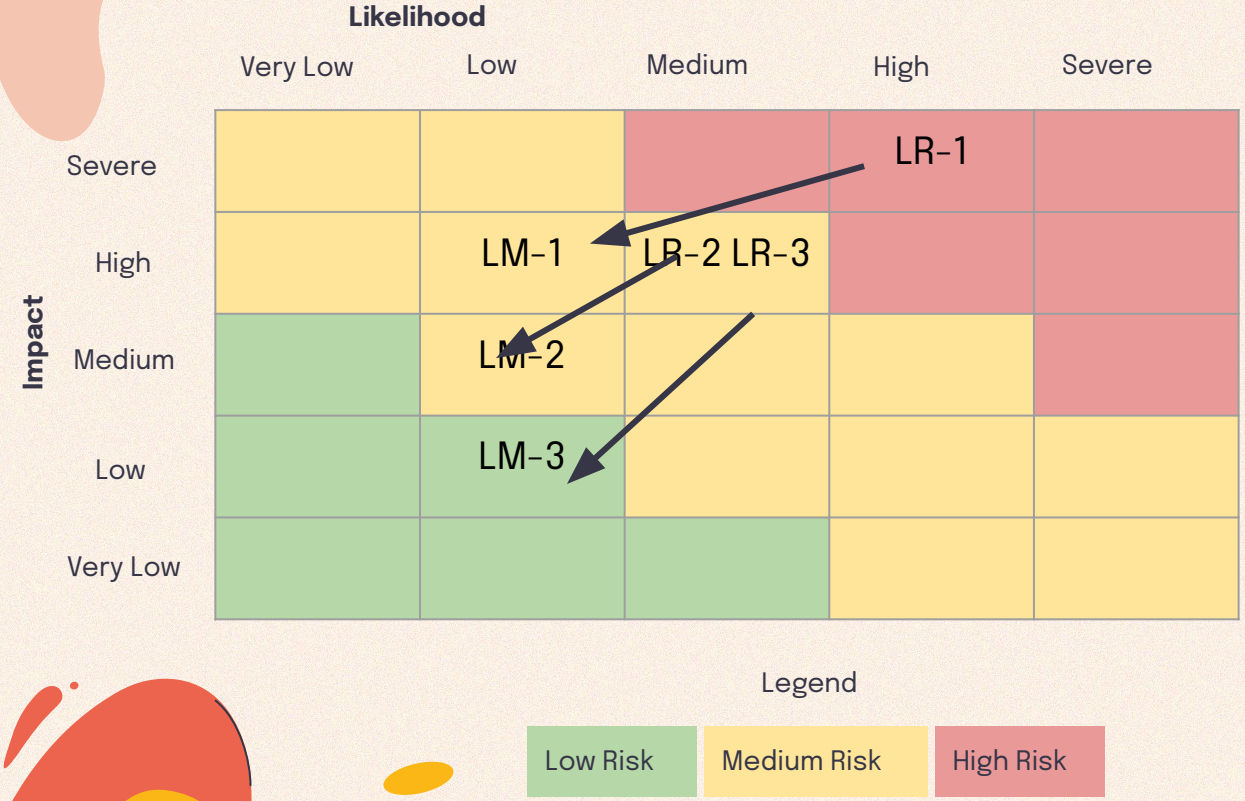
Risks

TR-1: System performance
TR-2: User's card declines
TR-3: Security breach or data leak
TR-4: Algorithm failure

Mitigation

TM-1: Load testing +stress testing
TM-2: Clear failure messaging
TM-3: Regular security testing
TM-4: Rule based filtering

Legal & Security Risk



Risks

LR-1: Music licensing violations

LR-2: Data privacy regulations

LR-3: Payment compliance

Mitigation

LM-1: No direct playback from unlicensed sources

LM-2 Collect minimal user data/clear privacy policy

LM-3: Do NOT store card data locally

User Roles

Business Owner

- Can configure genre/mood filters
- Can manage queue rules
- Can view revenue
- Cannot bypass licensing rules

Staff

- Can reorder/remove songs
- Can block inappropriate requests
- Can assist customers
- Cannot change business settings

Customer

- Can scan QR code
- Can request songs
- Can pay for priority
- Cannot modify queue after submission

User Stories (Customer)

As a customer, I want to request a song that will influence the atmosphere.

Acceptance:

- Customer can search and select a song
- Song is validated against business filters
- Request is added to the queue
- UI confirms submission

As a customer, I want to pay to prioritize my request so that it plays sooner.

Acceptance:

- Customer can choose priority option
- Payment is processed successfully
- Request is placed higher in queue
- UI shows updated position

As a customer, I want to browse songs so that I can easily find music I like.

Acceptance:

- Songs are displayed by genre/vibe
- Search functionality is available
- Results load quickly
- Only allowed songs are shown

As a customer, I want to access the system via QR code so that I can quickly interact without downloading anything.

Acceptance:

- QR code opens web interface
- No login required (or simple session)
- Interface loads correctly on mobile
- User can immediately browse songs

User Stories (Owner/Staff)

As a business owner, I want to filter songs by genre and mood so that the music matches my brand.

Acceptance:

- Owner can set genre/mood restrictions
- Explicit content can be blocked
- Filters apply to all requests
- Disallowed songs are rejected automatically

As a business owner, I want to monitor revenue from song requests so that I can track business value.

Acceptance:

- Revenue dashboard is available
- Payments are recorded per request
- Data updates in real time
- Owner can view totals and trends

As a staff member, I want to override or remove songs so that I can manage inappropriate or disruptive requests.

Acceptance:

- Staff can remove songs from queue
- Queue updates immediately
- Action is reflected in UI
- Removed songs do not play

As a staff member, I want to view and manage the queue so that I can maintain a smooth music experience.

Acceptance:

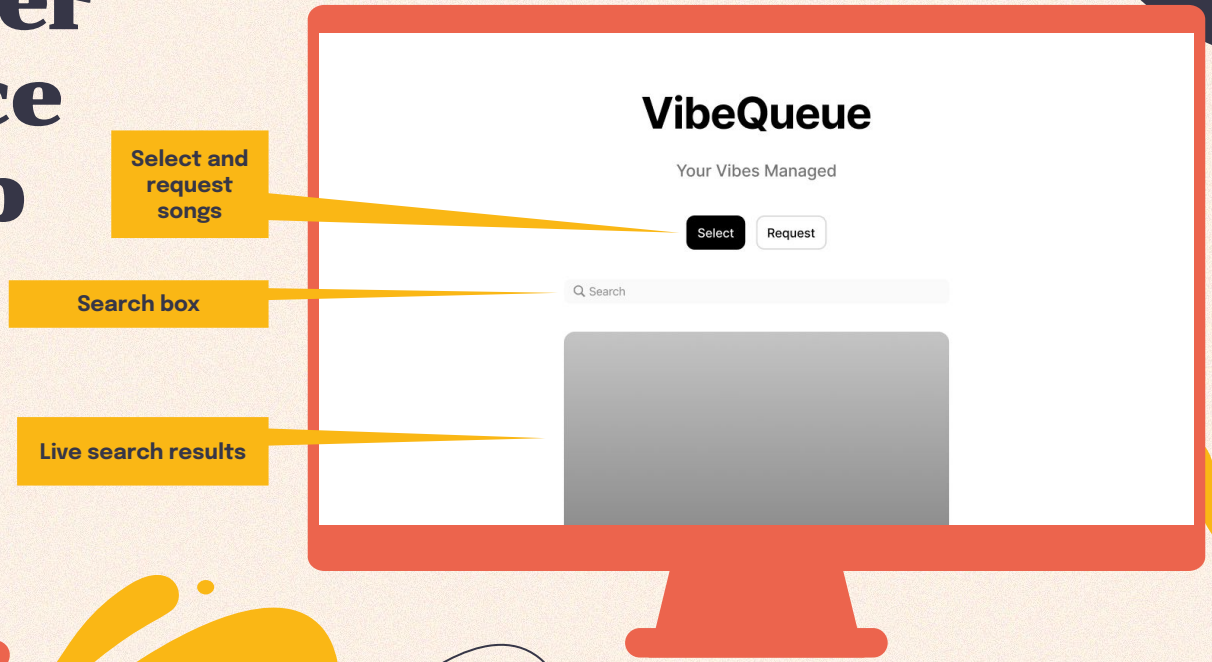
- Staff can view full queue
- Staff can reorder songs if needed
- Queue updates in real time
- Changes are reflected for all users

Feature Table

Category	Feature	Customer	Staff	Owner
Account	Account creation	✔	✔	✔
Account	Login	✔	✔	✔
Account	Payment processing	✔	✔	✔
Song queue	Song selection	✔	✔	✔
Song queue	Priority boost	✔	✔	✔
Song queue	Block songs (queue override)		✔	✔
Venue	Blacklist song/genre			✔
Venue	View revenue			✔

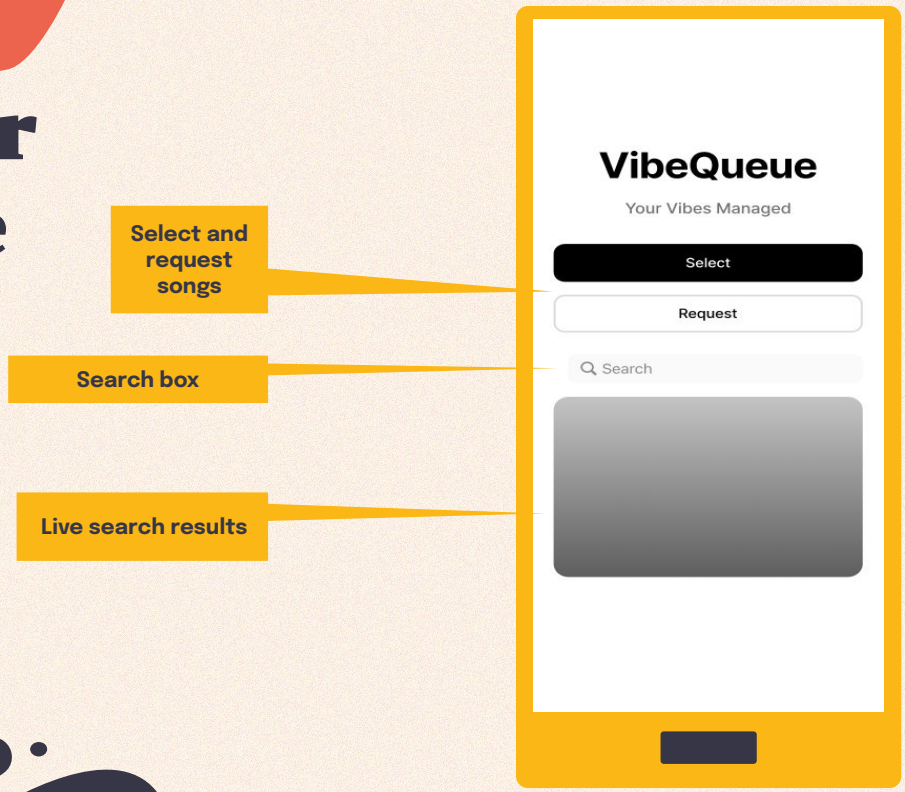
Customer Interface mockup

Desktop



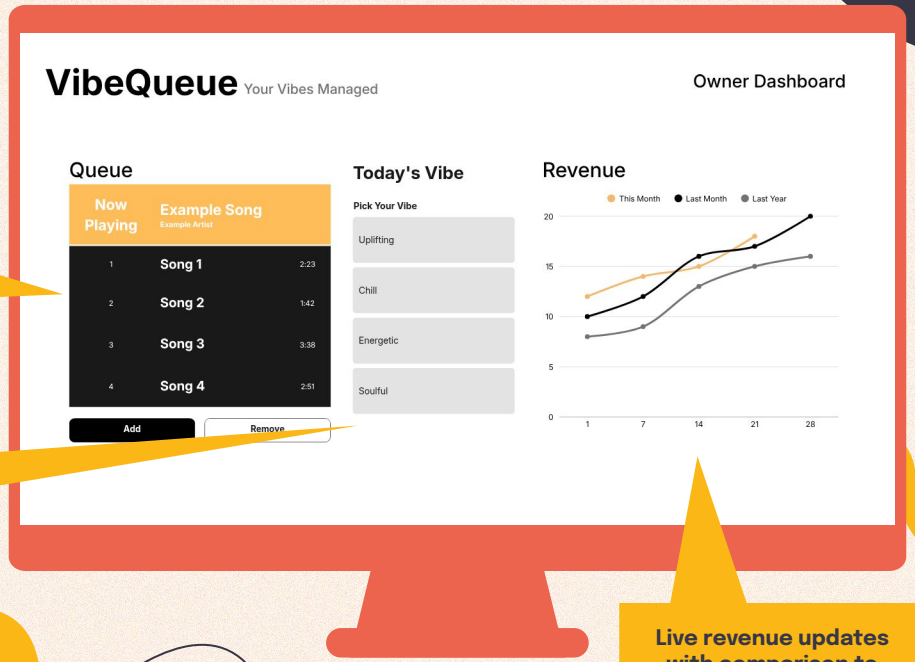
Customer Interface mockup

Mobile



Business Interface mockup

Desktop



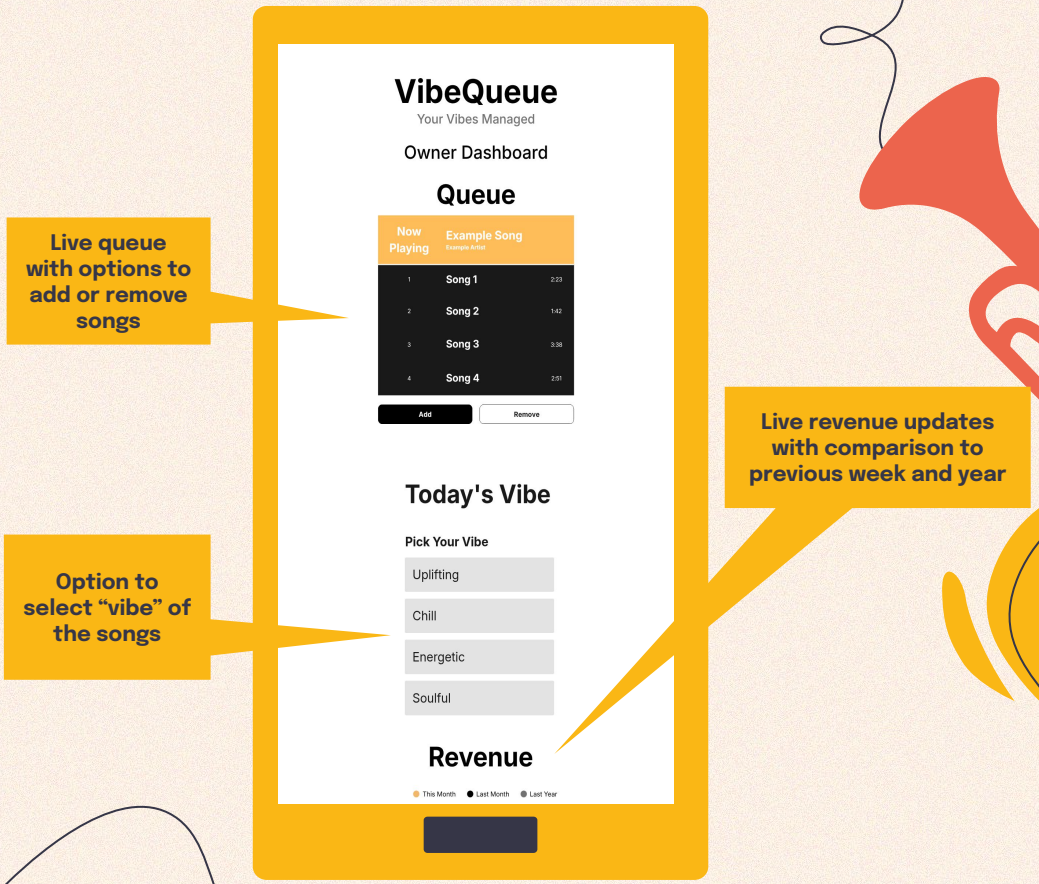
Live queue with options to add or remove songs

Option to select “vibe” of the songs

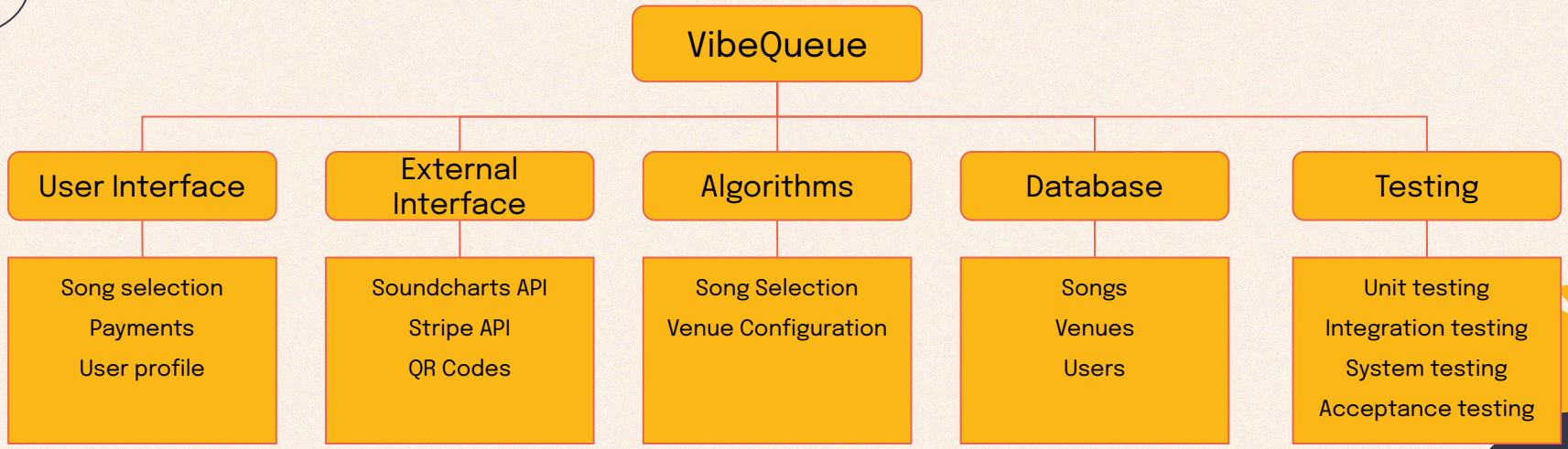
Live revenue updates with comparison to previous week and year

Business Interface mockup

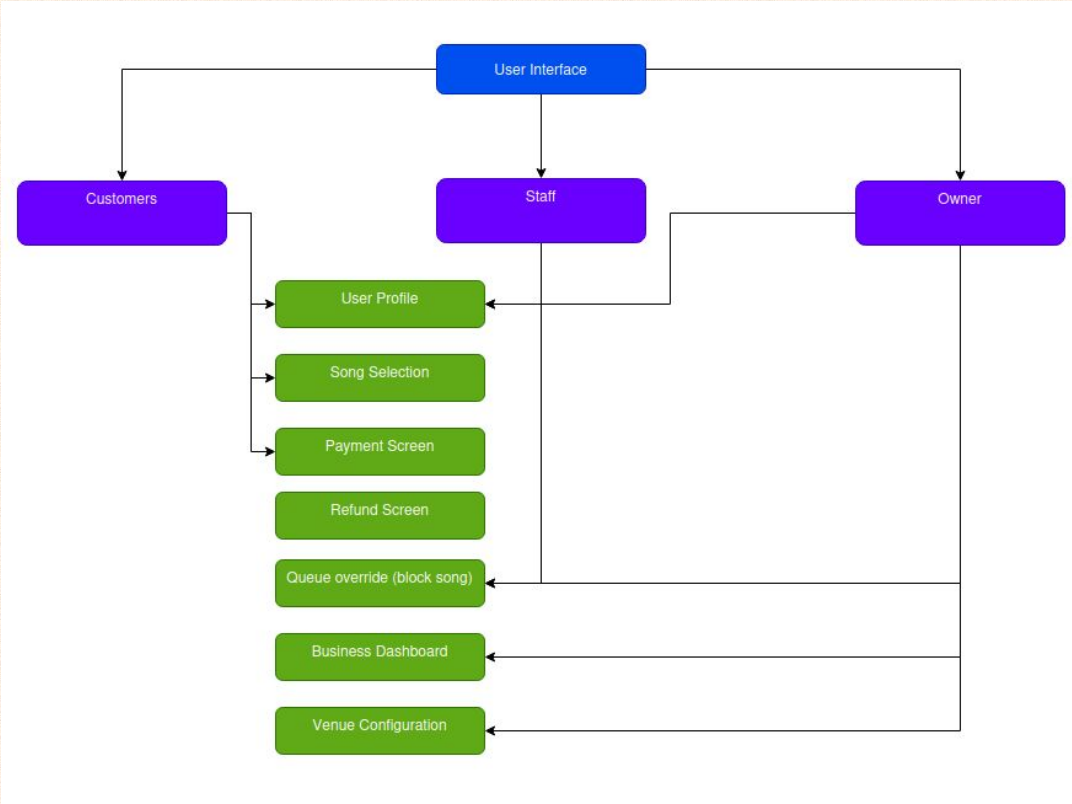
Mobile



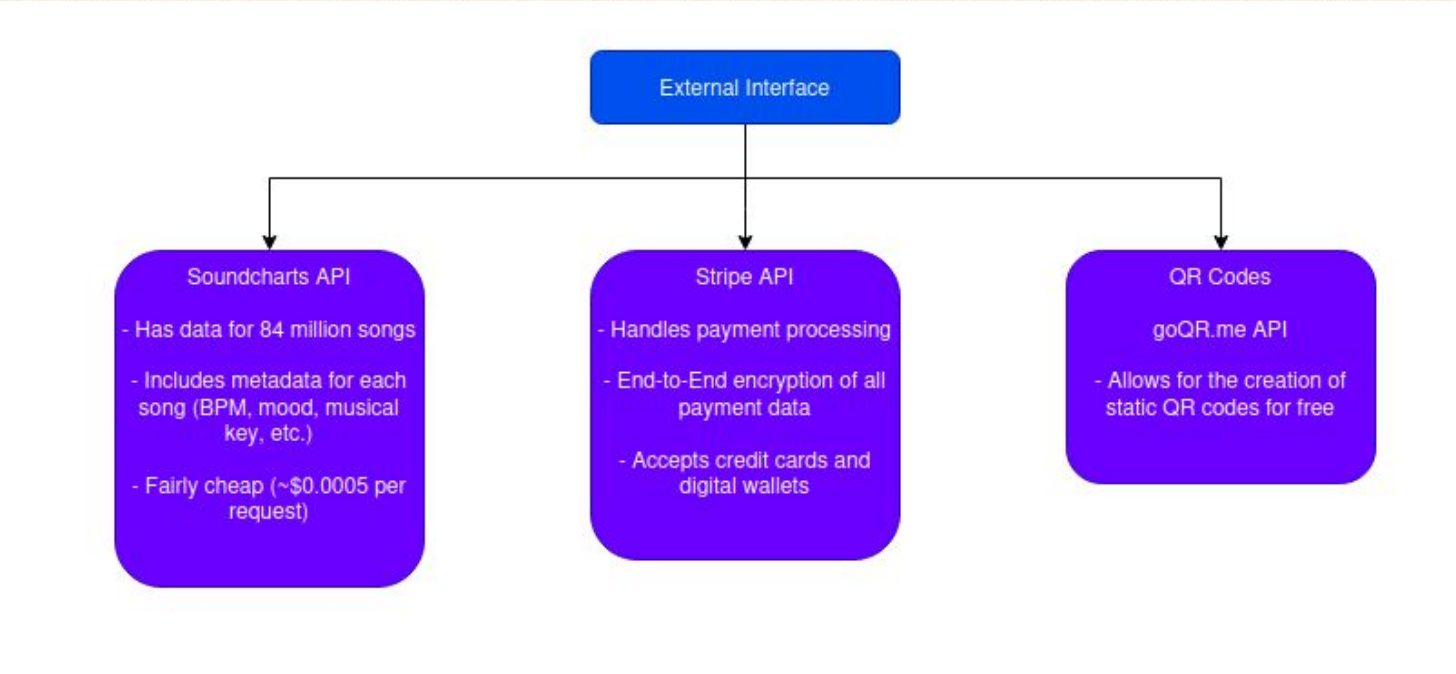
Work Breakdown Structure



User Interface



External Interface



Initial Sprint Breakdown

Seven 2-week sprints — from foundation to pilot launch

Sprint 1 (Week 1-2)
The Skeleton

Ensure the tech stack works, initialize the database, deploy an app that can write and read the database

Deliverable: a URL where the user can view a static list of songs

Sprint 2 (Week 3-4)
Core and Management

Create authorizations for distinct roles and create venue logic.

Deliverable: A venue owner can login and create the venue profile

Sprint 3 (Week 5-6)
Data Backbone

Build data tagging system for caches, genre/tempo tags, and the data pipeline. Ensure it handles API limits safely

Deliverable: A searchable database of songs with “vibe” data

Sprint 4 (Week 7-8)
Jukebox

Make the queue system with priority logic and real time updates for the queue

Deliverable: Staff member can see a song move from request to playing

Sprint 5 (Week 9-10)
Customer Web App

QR code creation, mobile responsive UI for browsing,searching, and requesting. Notifications to confirm

Deliverable: Customers can scan and successfully request a song

Sprint 6 (Week 11-12
Control Center

Deploy algorithm to match the “vibe” in the location with filters and the constructed owner dashboard.

Deliverable: Owner can restrict selection choices and view statistical metrics

Sprint 7 (Week 13-14)
Payments & Pilot

Payment integration is constructed. Establish pay to prioritize, profit reporting logic, and a full testing suite.

Deliverable: A production-ready build that can be used for pilot deployment and testing

Development Tools

Category	The team's selection	Why this choice?
Programming Language	Javascript	Javascript is an industry standard for mobile browsers
Integrated Development Environment (IDE)	Visual Studio Code (VS Code)	VS Code is a highly customizable and universal code editor with IDE functionality
Continuous Integration / Continuous Deployment (CI/CD)	Github Actions	Github Actions is a built in automated testing and deployment tool with error detection capability
Version Control	Github version control	Github has native version control

Dependencies

Libraries

- Django REST Framework
- Stripe Python Library
- Django Channels
- Requests

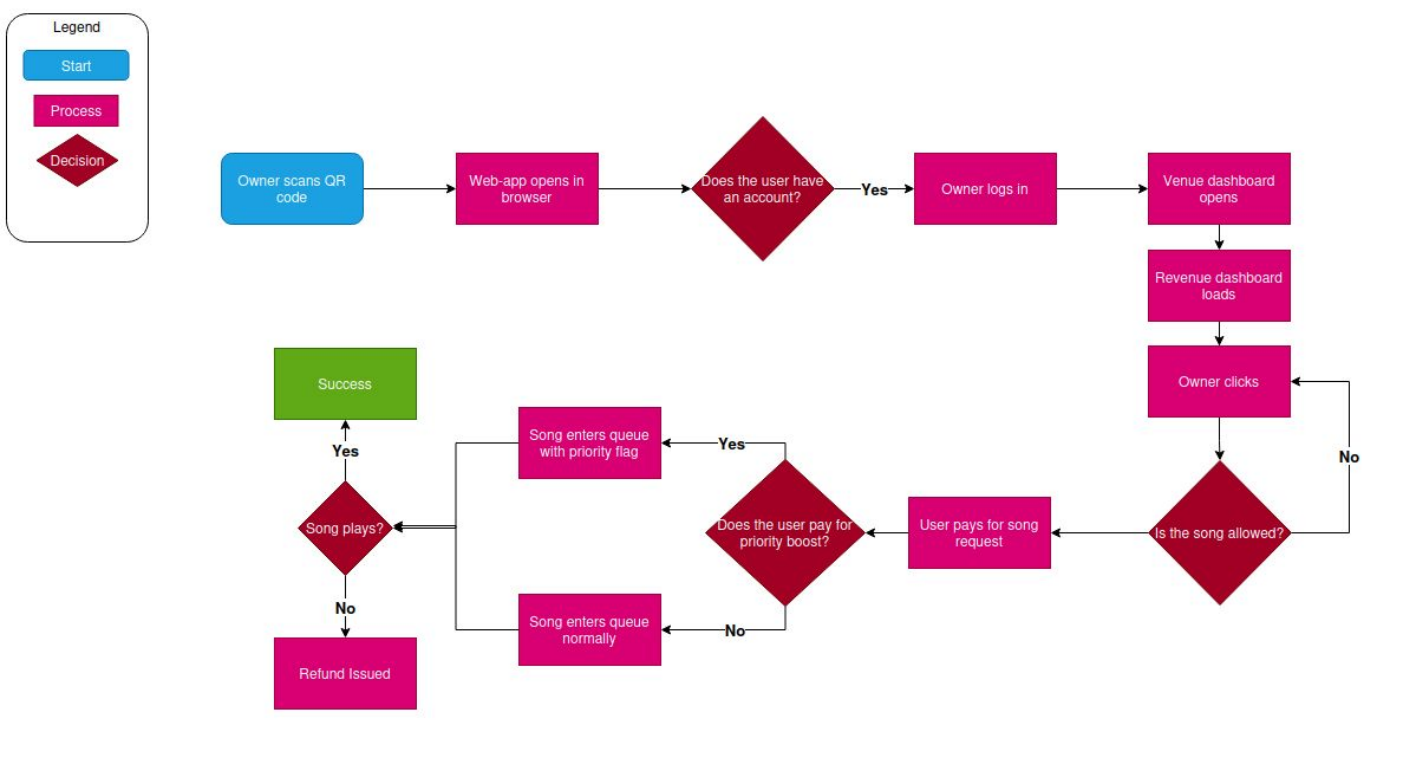
Tools

- VS Code
- Github
- Github Actions
- Docker
- PostgreSQL

Technology

- SoundCharts API
- SoundMachine
- Stripe QR mobile payment
- Web Server
- Django(Python)

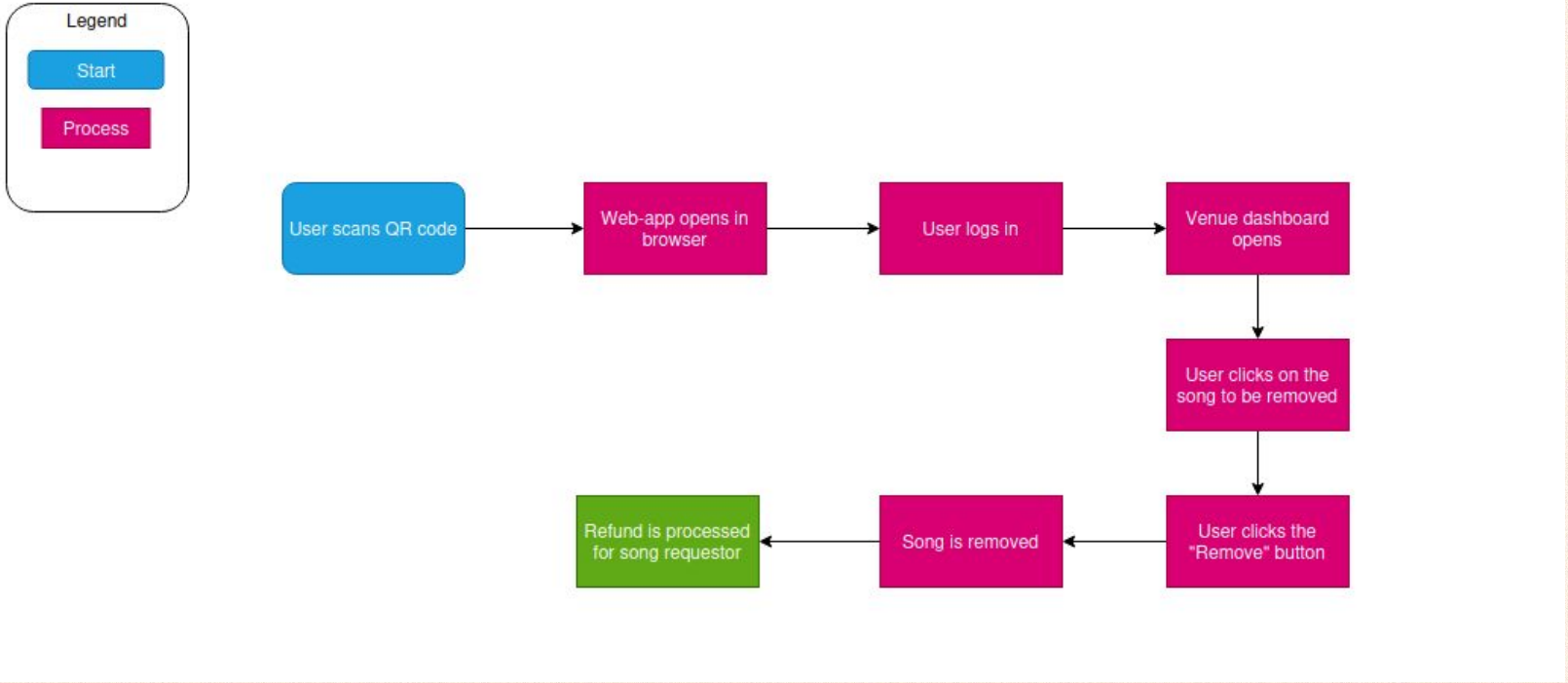
Song Selection Algorithm



This is the algorithm section that explains customer entry and song selection

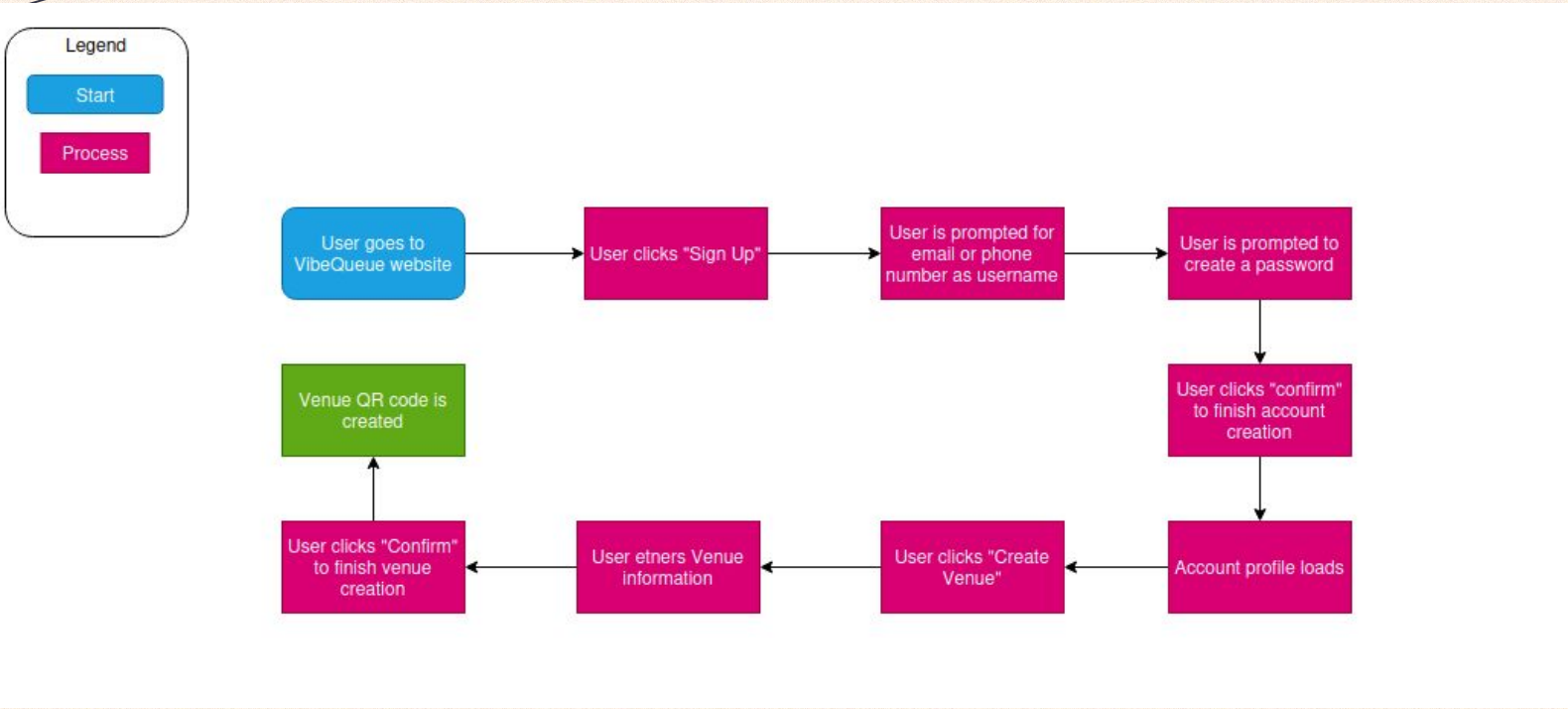
Queue Override Algorithm

This algorithm shows the steps a business owner or staff member takes to remove a song from the queue

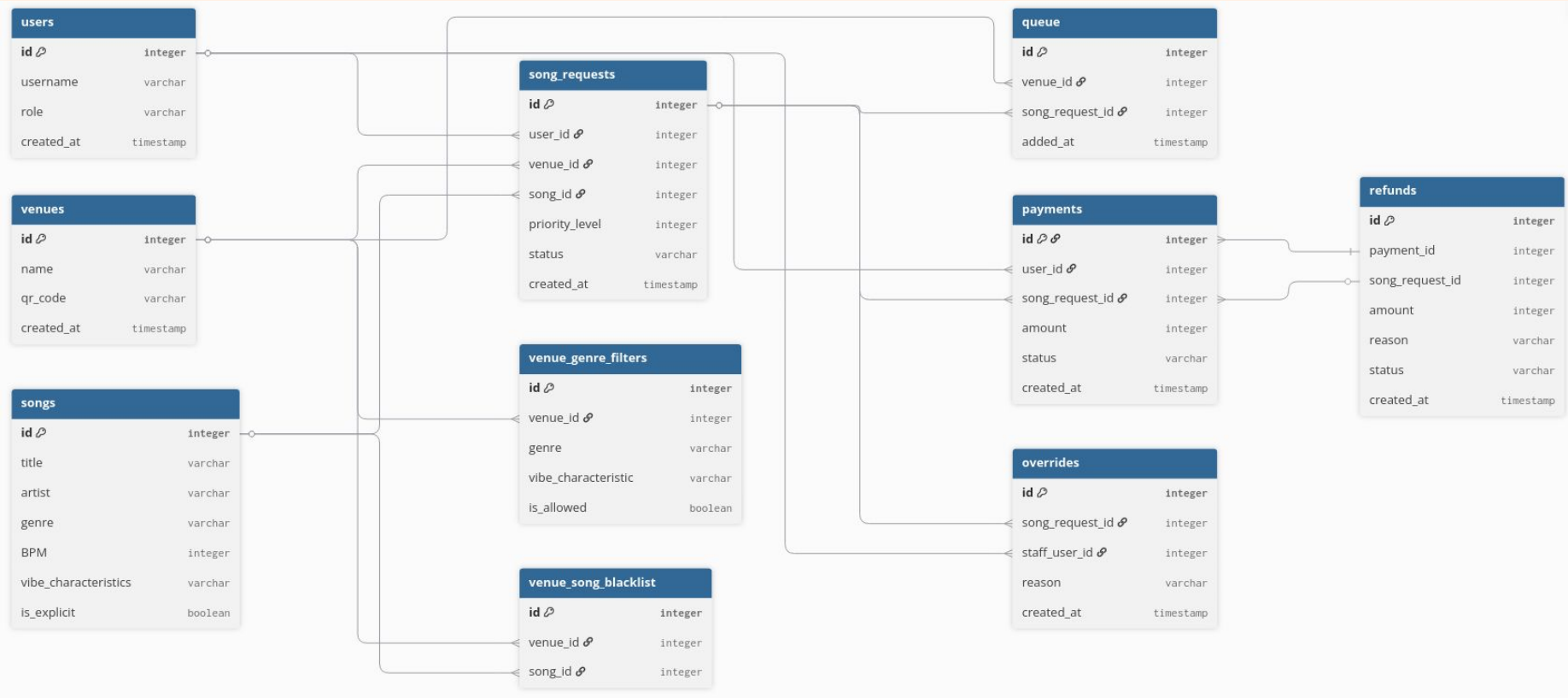


Venue Creation Algorithm

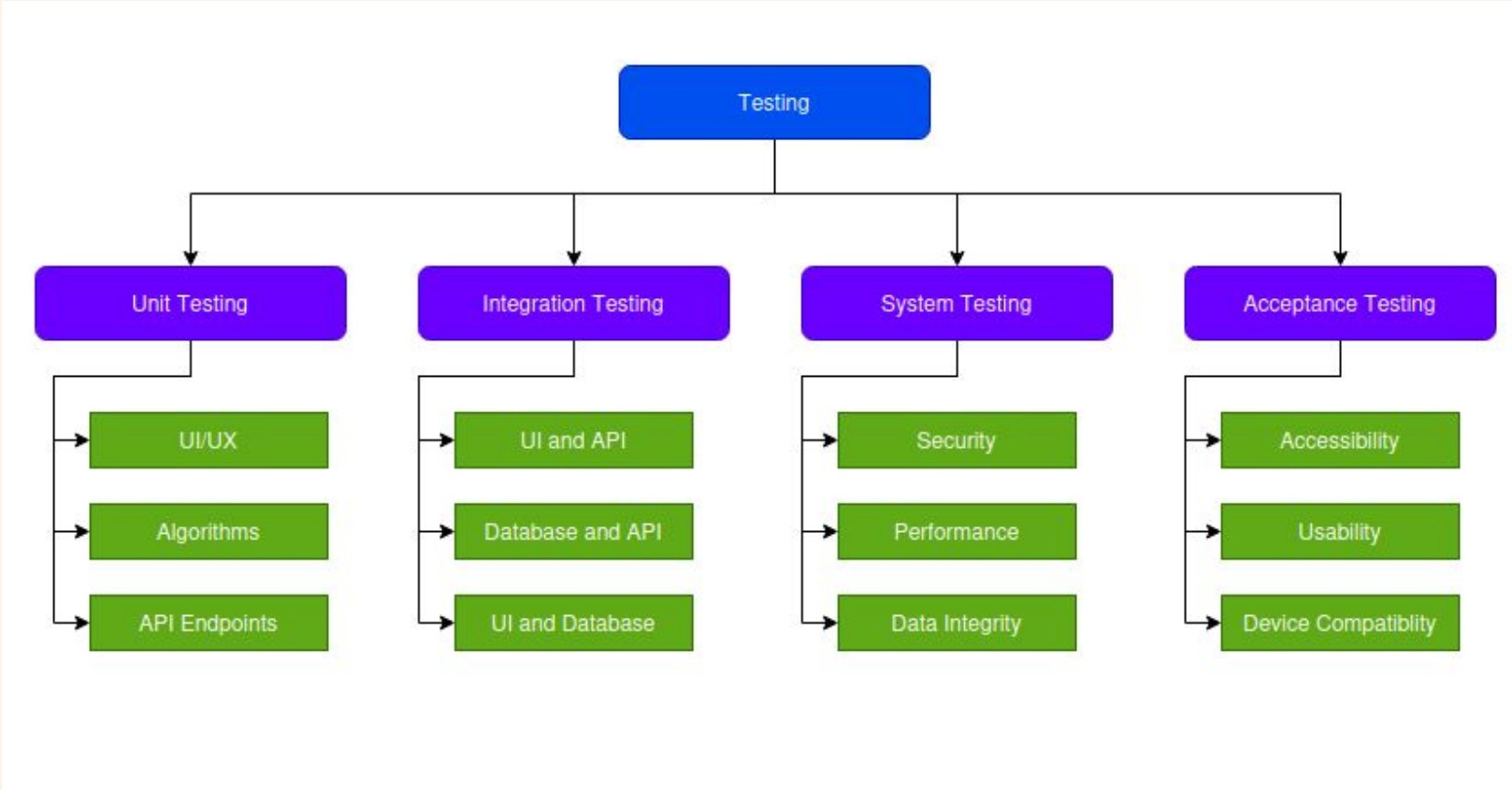
This algorithm shows how a business owner can go about creating an account and a QR code for their business



Database Schema



Testing architecture



Conclusion

01 Music is a **critical** factor of customer satisfaction and loyalty.

02 The existing competition does **not** cater to smaller businesses or spaces.

03 VibeQueue is a **low-cost** easy system that can meet the needs of the customer.

04 VibeQueue is **cheap** and **easy** to use!

05 Customers are **39%** more likely to return to a business if they enjoy the music. (MCR Data, 2021)

06 **41%** of Consumers will spend more time/money in a business if they like the music (MCR Data, 2021)

07 VibeQueue **optimizes** the current logistical overhead created by other competitors.

08 **VibeQueue** is hardware-agnostic, budget-friendly, and web-accessible

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Glossary

- Vibe: “The mood of a place, situation, person, etc. and the way that they make you feel.” (Cambridge Dictionary)
- Metadata: “Metadata is information–such as author, creation date or file size–that describes a data point or data set.” (IBM)
- Redundancy: unnecessarily repetitive
- API: Application Programming Interface - A tool that allows applications to communicate and exchange data with each other

Questions ?

Help us fine-tune your vibe!