**Non‐functional Requirements List**

**Performance:**

* **Streaming Efficiency**: Music tracks, albums, and playlists should stream with minimal buffering and playback interruptions, ensuring a smooth listening experience.
* **Response Time**: User interactions within the application, such as browsing, searching, and playback controls, should have a minimal response time for optimal usability.
* **Scalability**: The application should be scalable to handle increased traffic and data volume as the user base grows over time.

**Security:**

* **Data Encryption**: All sensitive user data, including personal music preferences and session tokens, must be encrypted both in transit and at rest.
* **Authentication**: Secure authentication mechanisms should be implemented to protect user accounts from unauthorized access, including robust password hashing and protecting it.
* **Authorization**: Role-based access control should be enforced to ensure that users can only access content and features appropriate to their role.
* **Data Privacy**: Compliance with data protection regulations to safeguard user privacy and ensure transparent handling of personal data.

**Availability:**

* **Continuous Availability**: The MusicMix application should be available 24/7 with minimal downtime for maintenance or updates, ensuring uninterrupted access to music content.
* **Fault Tolerance**: The application should gracefully handle errors and failures, preventing data loss and maintaining service availability even in the face of unexpected issues.

**Usability:**

* **Intuitive Interface**: The user interface should be intuitive and user-friendly, with clear navigation and easy access to key features such as playlist creation, music discovery, and playback controls.
* **Mobile Responsiveness**: The application should be responsive and optimized for various devices, including smartphones and tablets, to provide a consistent user experience across platforms.

**Code Documentation:**

* **Comprehensive Documentation**: The codebase should be well-documented to facilitate understanding and maintenance by developers, including inline comments, README files, and API documentation.