

## PROJECT CHARTER

1. General Project Information		
Project Name	Spotify AI- Powered Music Recommendation System	
Project Sponsor(s)	Head of AI and Machine Learning	
Project Manager(s)	PMO- Blue Team	
Project Budget	\$150 million	
2. Stakeholders		
Role	Title	Department
Project Sponsor, providing strategic oversight and resource allocation	Head of AI and Machine Learning	AI and Machine Learning
Develop and optimize the recommendation algorithm.	Lead AI/ML Engineer	AI and Machine Learning
Ensure compliance with data privacy regulations like GDPR and CCPA	Data Privacy Officer	Data Privacy
Review and address legal concerns related to data handling and privacy.	Legal Advisor	Legal
Oversee the integration of the AI system with Spotify’s existing platform	Product Integration Specialist	Product
Coordinate with external partners for cloud storage and analytics needs	Cloud Storage and Analytics Liaison	IT/Cloud Operations
3. Business Case		
<i>Explain the rationale behind the project, including the problem or opportunity it addresses and how it aligns with the organization’s strategic objectives.</i>		
<p>Spotify’s AI-powered music recommendation system addresses the challenge of delivering highly personalized user experiences in a crowded music streaming market. With millions of tracks available, users often struggle to discover new music that aligns with their tastes. This project leverages AI and machine learning to provide hyper-personalized recommendations based on user behavior, listening history, and mood, aiming to enhance user satisfaction and engagement. By offering more context-aware suggestions, Spotify can differentiate itself from competitors like Apple Music and Amazon Music, leading to higher retention rates and user loyalty.</p> <p>The project also presents a major opportunity for revenue growth through increased user engagement and improved targeting for advertisers. By delivering a more tailored experience, Spotify can boost subscription numbers, reduce churn, and enhance ad relevance. This aligns with the company’s strategic objectives of maintaining market leadership, fostering innovation through AI, and delivering unparalleled personalization to its users.</p>		

## 4. Objectives, Deliverables and Milestones

### Project Objective

To develop an AI-powered music recommendation system that delivers hyper-personalized music suggestions by analyzing user behavior, mood, and listening history. This system is intended to maintain Spotify's competitive edge by enhancing user engagement through accurate and timely music recommendations.

### Deliverables and Milestones

#### Develop a High-Accuracy AI Recommendation Algorithm

- **Specific:** Create an AI algorithm that analyzes user behavior, mood, and listening history to generate music recommendations.
- **Measurable:** Achieve an accuracy rate of at least 90% in predicting user preferences based on test data.
- **Achievable:** Utilize existing machine learning technologies and data to develop and refine the algorithm.
- **Realistic:** Leverage Spotify's current AI/ML expertise and resources for development.
- **Time-bound:** Complete the development of the AI algorithm prototype within 2 months.

#### Integrate AI System into Spotify's Platform

- **Specific:** Integrate the developed AI recommendation system with Spotify's existing user interface and backend infrastructure.
- **Measurable:** Ensure seamless integration with no major disruptions to current services.
- **Achievable:** Work with Spotify's product and IT teams to facilitate the integration process.
- **Realistic:** Use proven integration techniques and tools to manage the process effectively.
- **Time-bound:** Finalize integration and begin internal testing within 4 months

#### Conduct Beta Testing and Collect User Feedback

- **Specific:** Launch a beta version of the AI recommendation system to a selected group of users and gather their feedback.
- **Measurable:** Collect feedback from at least 1,000 beta testers and achieve a user satisfaction score of at least 85%.
- **Achievable:** Leverage Spotify's user base and feedback channels to recruit and survey beta testers.
- **Realistic:** Implement a structured beta testing phase with clear goals for feedback collection.
- **Time-bound:** Complete beta testing and analysis of user feedback within 6 months.

#### Achieve Full System Deployment and Launch

- **Specific:** Deploy the fully integrated and tested AI recommendation system to all Spotify users.
- **Measurable:** Ensure the system is available to 100% of Spotify's user base.
- **Achievable:** Coordinate with Spotify's IT, product, and operations teams for a smooth rollout.
- **Realistic:** Follow a detailed deployment plan to manage potential issues and user impact.
- **Time-bound:** Complete the full system deployment and official launch within 9 months.

#### Ensure Compliance with Data Privacy Regulations

- **Specific:** Implement necessary measures to ensure the AI recommendation system complies with GDPR, CCPA, and other relevant data privacy regulations.
- **Measurable:** Obtain legal certification or approval confirming compliance.
- **Achievable:** Collaborate with Spotify's data privacy and legal teams to implement and review compliance practices.
- **Realistic:** Use existing compliance frameworks and resources within Spotify.
- **Time-bound:** Achieve compliance certification before the system's full deployment.

## 5. Success Criteria

### Success Criteria for Spotify's AI-Powered Music Recommendation System

1. **User Engagement Metrics:** The success of the project will be measured by an increase in key user engagement metrics, including the average time spent on the platform, the number of songs streamed per session, and user interaction with personalized playlists or recommendations. A significant uplift in these metrics will indicate that the AI system is effectively enhancing the user experience.
2. **User Retention and Churn Rate:** One of the primary success indicators will be a reduction in user churn rates. Tracking the percentage of users who remain active on the platform over time, especially among those interacting with the personalized recommendations, will measure the system's impact on customer retention.
3. **Recommendation Accuracy and User Satisfaction:** Feedback mechanisms, such as user ratings, likes, and skips, will be tracked to assess how accurate and relevant the recommendations are. High user satisfaction scores and fewer skipped tracks after a recommendation will indicate the system's success in delivering the right music to the right users.
4. **Subscription Growth:** The project's success will be measured by its influence on subscription growth. An increase in paid subscriptions or upgrades from free to premium tiers, particularly due to the value added by personalized recommendations, will serve as a critical metric of success.
5. **Revenue Impact:** The system's effectiveness will also be measured by its impact on ad revenues and overall revenue growth. Increased user engagement and retention, combined with better-targeted advertisements, should lead to higher ad impressions and revenue from premium subscriptions, contributing to overall business growth.

## 6. Scope

In Scope	Out of Scope
<ul style="list-style-type: none"> <li>• Development of AI Recommendation Algorithm</li> <li>• Integration with Spotify Platform</li> <li>• Collaboration with Cloud Storage and Analytics Partners</li> <li>• Compliance with Data Privacy Regulations</li> <li>• Beta Testing and User Feedback Collection</li> <li>• Full System Deployment and Launch</li> </ul>	<ul style="list-style-type: none"> <li>• Redesign of Spotify's User Interface</li> <li>• Development of Features Beyond Music Recommendations</li> <li>• Long-Term Post-Launch Analytics</li> <li>• Upgrades to Existing Infrastructure</li> <li>• Marketing and Promotion of the New Feature</li> </ul>

## 7. Major Known Risks

*Identify potential risks or obstacles that may impact the project and cause it to fail.*

*List any major assumptions or constraints that may limit the project team's options regarding resources, personnel, or schedule.*

*List any project activities which will:*

*Impact an activity external to the project.*

*Be impacted by the non-delivery of an activity external to the project.*

<b>Risks &amp; Mitigation</b>	<p><b>Algorithm Accuracy Risk:</b> The AI recommendation algorithm may not achieve the targeted 90% accuracy.</p> <p><b>Mitigation:</b> Conduct iterative testing and model refinement, leveraging Spotify's machine learning expertise.</p> <p><b>Integration Risk:</b> Integration of the AI system may disrupt existing services on Spotify's platform.</p> <p><b>Mitigation:</b> Perform phased integration with extensive internal testing before full rollout.</p> <p><b>Ethical and Bias Risk:</b> The AI may display biased recommendations, impacting user satisfaction and fairness.</p> <p><b>Mitigation:</b> Implement bias detection and correction techniques, regularly audit the algorithm, and ensure diverse training datasets.</p> <p><b>Technical Risk:</b> Technical failures or bottlenecks may occur during AI model development or integration.</p> <p><b>Mitigation:</b> Utilize cloud-based infrastructure for scalability and redundancy, and have dedicated technical support teams.</p> <p><b>Compliance &amp; Legal Risk:</b> Failure to meet GDPR/CCPA compliance requirements could result in legal and financial penalties.</p> <p><b>Mitigation:</b> Involve legal and data privacy teams early in the process and obtain compliance certification before deployment.</p> <p><b>Operational Risk:</b> Cross-functional collaboration issues may delay development.</p> <p><b>Mitigation:</b> Assign a dedicated project manager and hold regular cross-functional meetings to ensure alignment.</p> <p><b>Reputation and User Trust Risk:</b> Misuse of user data or poor recommendations could erode user trust in Spotify's platform.</p> <p><b>Mitigation:</b> Ensure transparency in data usage, prioritize privacy, and maintain high-quality recommendations.</p> <p><b>Contractual Risk:</b> Issues with external partners (e.g., cloud services) may lead to delays or financial penalties.</p> <p><b>Mitigation:</b> Establish clear SLAs with external vendors and monitor their performance closely.</p>
<b>Constraints</b>	Budget: \$150 million, projection completion timeline: 9 months, compliance requirements: data privacy regulations (GDPR, CCPA).

Assumptions	Data Availability and Quality, User Acceptance of Data Collection, Compliance with Global Privacy Regulations, Technological Feasibility, Sufficient Budget and Resources, Talent Availability from External Vendors or Contractors			
External Dependencies	Cloud Storage and Analytics Providers, Third-Party Music Licensing and Content Providers			
<b>8. Communication Strategy</b> <i>Specify how the project manager will communicate with the Executive Sponsor, Project Team members, and Stakeholders, e.g., the frequency of status reports, the frequency of Project Team meetings, etc.</i>				
<b>1. Executive Sponsor (Head of AI/ML)</b> <ul style="list-style-type: none"> <li><b>Bi-weekly reports:</b> Progress updates, risks, budget tracking.</li> <li><b>Monthly meetings:</b> Review milestones, strategic concerns.</li> <li><b>Method:</b> Email reports, video/in-person meetings.</li> </ul> <b>2. Project Team Members (AI/ML, Legal, Data Privacy, Product)</b> <ul style="list-style-type: none"> <li><b>Weekly meetings:</b> Track progress, discuss blockers.</li> <li><b>Daily standups:</b> Quick updates on tasks and issues.</li> <li><b>Ad-hoc meetings:</b> As needed for urgent matters.</li> <li><b>Method:</b> Teams for quick discussions, video conferencing for formal meetings.</li> </ul> <b>3. Stakeholders (Product, Legal, Marketing, External Partners)</b> <ul style="list-style-type: none"> <li><b>Monthly updates:</b> Summarize progress and risks.</li> <li><b>Quarterly reviews:</b> Comprehensive status, adjust plans.</li> <li><b>Method:</b> Email updates, video/in-person reviews.</li> </ul> <b>4. Project Documentation</b> <ul style="list-style-type: none"> <li><b>Weekly status reports:</b> Progress, risks, next steps (via project management tools).</li> <li><b>Risk/issue logs:</b> Regular updates shared with the team and sponsor</li> </ul>				
<b>9. Sign-Off</b>				
	Name	Role (Approver/ Reviewer)	Signature	Date
Project Sponsor(s)	Tony Jabara	VP Head of Machine Learning	<i>Tony Jabara</i>	9/12/2024
Stakeholder(s)	Daniel Ek	CEO	<i>[Signature]</i>	9/12/2024
Project Manager	Blue Team	Project Managment Office	<i>blue team</i>	9/12/2024