# CAPSTONE II

PRELIMINARY PROJECT DETAIL PRESENTATION – P9


LYRE :

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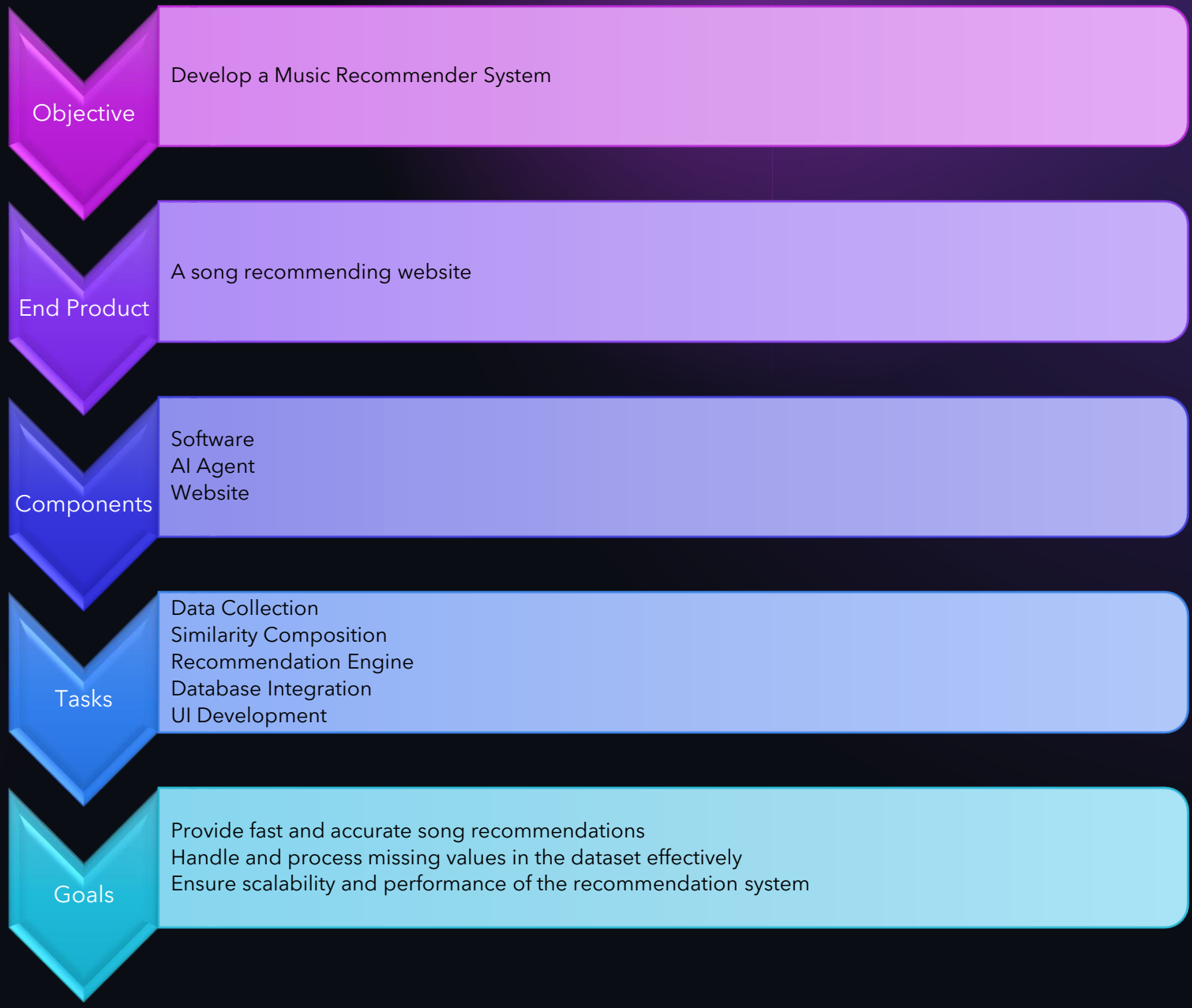
# Preliminary Project Scope: Music Recommender System



# Technology and Architecture

- **SOFTWARE COMPONENTS:**
  - **Backend:** Python, Flask for the web framework.
  - **AI Agent:** Scikit-learn for similarity computation, handling missing values.
  - **Database:** SQL for storing user, artist, track, and playlist data.
- **AI AND MACHINE LEARNING:**
  - Precomputed similarity matrix for fast recommendation.
  - Algorithms to handle missing values in the dataset.
- **SYSTEM ARCHITECTURE:**
  - **User Interface (Frontend):** The interface where users interact with the system.
  - **Web Server (Backend):** Handles requests, processes recommendations, and serves the frontend.
  - **AI Engine:** Computes song similarities and provides recommendations.
  - **Database:** Stores user, artist, track, and playlist data.
  - **API Layer:** RESTful API facilitating communication between frontend and backend components.


- Nimisha P T – Team Lead/ Backend Developer
- Nikitha Mary Thomas – Backend Developer
- Anju Sunny – Frontend Developer


Lyre

# Use Cases and Evaluation

**•SAMPLE USE CASES:**

- **User Story 1:** As a user, I want to receive song recommendations similar to the ones I like.
- **User Story 2:** As a music enthusiast, I want to explore new songs that fit my taste.

**•PROJECT EVALUATION:**

- **Testing:** User acceptance testing to ensure recommendations are accurate and satisfactory.
- **Evaluation Metrics:** Precision, recall, and F1-score to measure recommendation quality.
- **Feedback:** Collect user feedback to improve recommendation accuracy and system usability.

**•SUBMISSION GOALS:**

- **GitHub Repository:** Ensure all team members submit the project link to the system.
  *https://github.com/nikithamarythomas/music_recommender.git*
- At the end of project, a website needs to be deployed for the music recommender.

*Thank You*