

Team 16  
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## Status Report: RFID Spotify Record Player

### Project Overview:

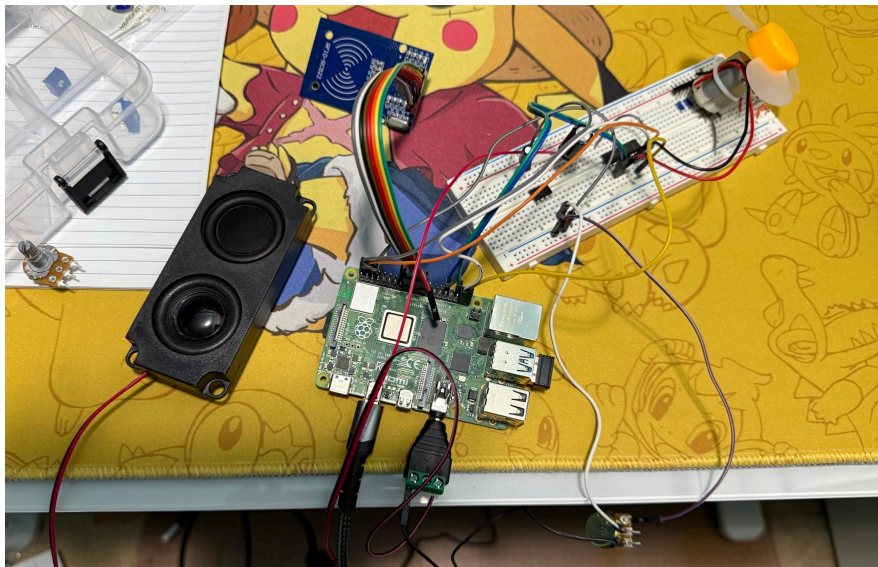
The RFID Spotify Record Player aims to combine the nostalgic experience of a traditional record player with the convenience of digital streaming. Utilizing RFID chips embedded within custom miniature records, the device initiates playback of specific songs on Spotify through a Raspberry Pi. A DC motor enhances the experience by creating a rotating visual effect, mimicking the traditional record-playing ambiance.

### Current Status:

The project is progressing on schedule, and a working prototype without an LCD screen has been completed. Major achievements include:

- **Concept and Design Completed:** The overall design, including the Level 0 and Level 1 block diagrams, has been finalized. These diagrams map out the system's major components and their interactions, providing a clear visual foundation for implementation.
- **Component Selection:** The Raspberry Pi, RC522 RFID reader module, and DC motor have been selected as primary hardware components. Initial tests indicate compatibility with the project's requirements.
- **Software Integration Completed:** The RFID reader has been successfully integrated with the Spotify API, enabling song playback based on the RFID tag input.

### Project Pictures:



**Video link:**

[https://drive.google.com/file/d/1K7AMLiBzfWugOn-8HSeIKXvq5kMZzPSX/view?usp=drive\\_link](https://drive.google.com/file/d/1K7AMLiBzfWugOn-8HSeIKXvq5kMZzPSX/view?usp=drive_link)

**Next Steps:**

1. Acquire and integrate an LCD screen for displaying the song title and playback status.
2. Design and test an amplifier circuit to enhance audio quality and volume.
3. 3D printing custom components for the player casing and mini-record holders will complete the visual design.
4. Conduct full-system testing to ensure reliability, smooth operation, and user experience.

**Challenges:**

- **Speaker Amplification:** The audio output from the Raspberry Pi lacks sufficient power to drive the speaker at a higher volume, requiring an amplifier solution.
- **3D Printing Fit and Quality:** Ensuring that custom 3D-printed parts fit well with the prototype and align with the visual design.

**Conclusion:**

While the project is progressing well, with essential components and preliminary software development already established, it is important to continue staying on schedule due to the time limitations. We will be facing some challenges within the coming weeks, but will remain focused on integration and testing to advance toward a fully functional prototype.