USER STORIES AND PROJECT - Music Recommender

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MICROSERVICES:
- 1. External Interface, API
- 2. External Interface, Browser
- 3. Business Logic
- 4. Machine Learning/Recommendation Engine
- 5. API Call Service
- 6. Database

Yellow - 1st sprint
Green - 2nd sprint
White - 3rd sprint

USER STORIES:
External Interface, API:
- Can ask for music recommendation via API key
- Can ask for every recommendation received in a structured list via authenticated API call
- Can check the remaining number of tokens on the user profile via authenticated API call
- Can obtain it's own (non sensitive) user data via authenticated API call
- Can send a review result via API call

External Interface, Browser:
- Can signup to the service
- Can login to the service
- If not logged in, can have a landing homepage
- If not logged in, can have a about page that explains the service
- Can display a page containing the user's profile
- Can obtain an API key to use with the API endpoint
- Can obtain a music recommendation
- Can listen to a song snippet from a given recommendation
- Can receive a link to the song itself on spotify
- Can check the remaining number of service tokens
- Can review a received recommendation to get a service token back
- Can contact the website administration via a valid contact us form

Business Logic and Machine Learning container:
- An user machine can receive informations about the number of service tokens available
- An user machine can receive a music recommendation for a user

- An user machine can receive information about an user's previous music recommendations
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- An user machine can receive spotify information about relevant music delegating a call to the Spotify API call microservice
- An user machine can add a user to the database by letting businesslogic relay the user's data to the DBMS
- An user machine can authenticate a user by letting businesslogic extrapolate and verifying against the user data contained in the DB
- An user machine can verify a user's availability of service tokens by letting businesslogic get user token data from the DBMS
- An user machine can add a review to a recommandation by letting businesslogic verify and write the transaction to the DBMS
- An user machine can authenticate a user by letting businesslogic verify the API key against the one stored in the DB
- An user machine can receive data for a given user by letting businesslogic query the DBMS
- An user machine can ask for a recommendation, letting businesslogic delegate the computation to the machine learning microservice
- An user machine can deliver messages meant for the website administration by letting businesslogic back the message on the DBMS

Machine learning/clustering microservice:
- To reduce waiting times during cluster calculation, the microservice precache as much of the data as possible
- An user machine can ask for a recommendation to the ML microservice, which will be delivered back in JSON format

Spotify API caller microservice
- una macchina utente può ricevere un link spotify per una canzone dato un titolo
- una macchina utente può ricevere un link spotify per embeddare una canzone partendo dal titolo
- una macchina utente può essere notificata di eventuali errori con le api call spotify