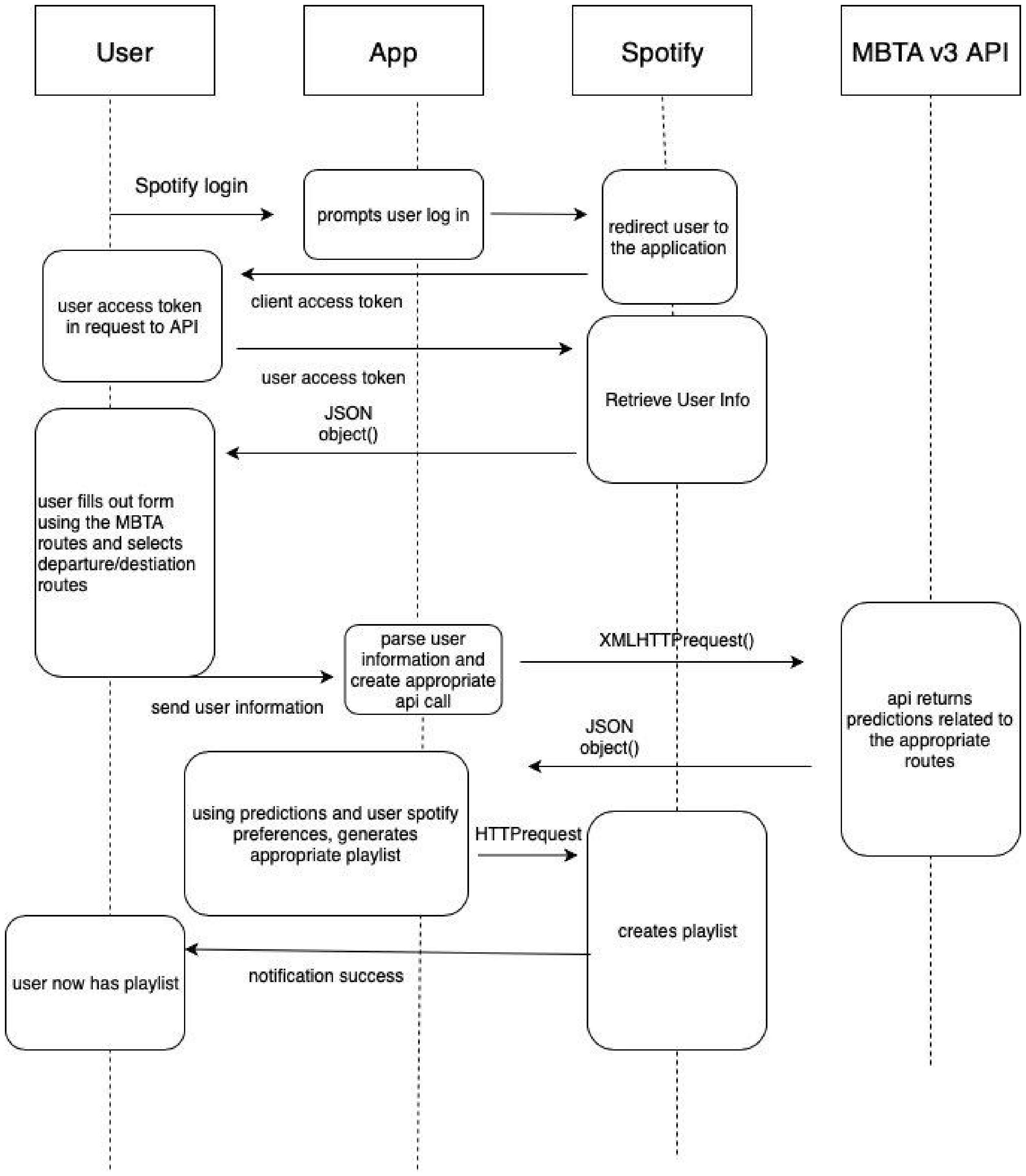
User Stories UML Diagrams


User
App
Spotify
MBTA v3 API
Spotify login
prompts user log in
redirect user to the application
client access token
user access token in request to API
user access token
Retrieve User Info
JSON object()
user fills out form using the MBTA routes and selects departure/destiation routes
parse user information and create appropriate api call
XMLHTTPrequest()
send user information
api returns predictions related to the appropriate routes
JSON object()
using predictions and user spotify preferences, generates appropriate playlist
HTTPrequest
creates playlist
user now has playlist
notification success

Happy Path: **Existing User Wants Playlist for Specific Route**

1. User starts his log in session using Spotify
2. Our application redirects user login, successfully connecting to the API using our client ID
3. User accepts and starts the actual log in to spotify
4. Spotify accepts and returns all the user information
5. Our app and the user both receive their appropriate user information in a JSON object.
6. User fills out his form, listing the appropriate routes and stops that he needs to take
7. Our application successfully parses that information, calls the MBTA api, performs the request and then the MBTA API returns to the app the proper JSON response.
8. Application successfully parses JSON response,generates appropriate playlist within the given time frame, and makes a POST request with the client and user access token.
9. Spotify creates the playlist and successfully notifies both the user and application that the playlist has been created.

Things that could go wrong in the Happy Path

1. Our application cannot connect to Spotify API
    a) Notifies user that the app is currently not able to connect to the API. Please try again or try later.
2. Using user credentials, Spotify was unable to successfully authorize user authentication.
    a) Notify user that the application was unable to verify his user account. Signal user to either try again with the correct information or try again later.
3. MBTA v3 API cannot return appropriate predictions
    b) Notify user to make sure that he is within the timeframe of the MBTA's running schedule, and list off that appropriate timeframe. Return user to the route creation form and signal the user to try again.
4. Spotify was unable to create the playlist
    a) Tokens might have expired. From the app-side, try to refresh the tokens and try creating the playlist again. If that doesn't work, notify user that we were unable to create a playlist, return user to the route creation form (with his information already preloaded by caching his information) and notify user to either try again or try again later.

Architecture / Platform of Our Choice: Node.js and Express

All of our server/client side calls, and most of the parsing of all the JSON objects that are being returned by said API's are all being handled through Javascript. After reading the documentation about Spotify's API, the documentation recommended us that the fastest and most versatile way to handle our client tokens and access token was if we performed all of our calls and created all of our sessions using Node.js and Express. Since Node.js and Express are all parts of Javascript, its easier for us to parse all the information directly using Javascript, instead of having to return that information, and then parsing it outside of our server/client scripts using Django. Also, most of our team members have worked/or have proficient knowledge of using both Javascript, Node.js and Express, which means that the design process of the application will run smoother if we all use frameworks that we all are comfortable with. Last but not least, Django is a highly complex Python library, which means that in the long run, Django is not really worth for a small scale application like the one we are building. We are not parsing large amounts of data, nor we have to do any “intense” data analysis using Python/Django, so it is easier to perform all of that just using the three frameworks that we have listed.