

HAS - Home Audio System



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Our Team

Kareem Halabi - Android Developer

Kristina Pearkes - Desktop GUI Developer

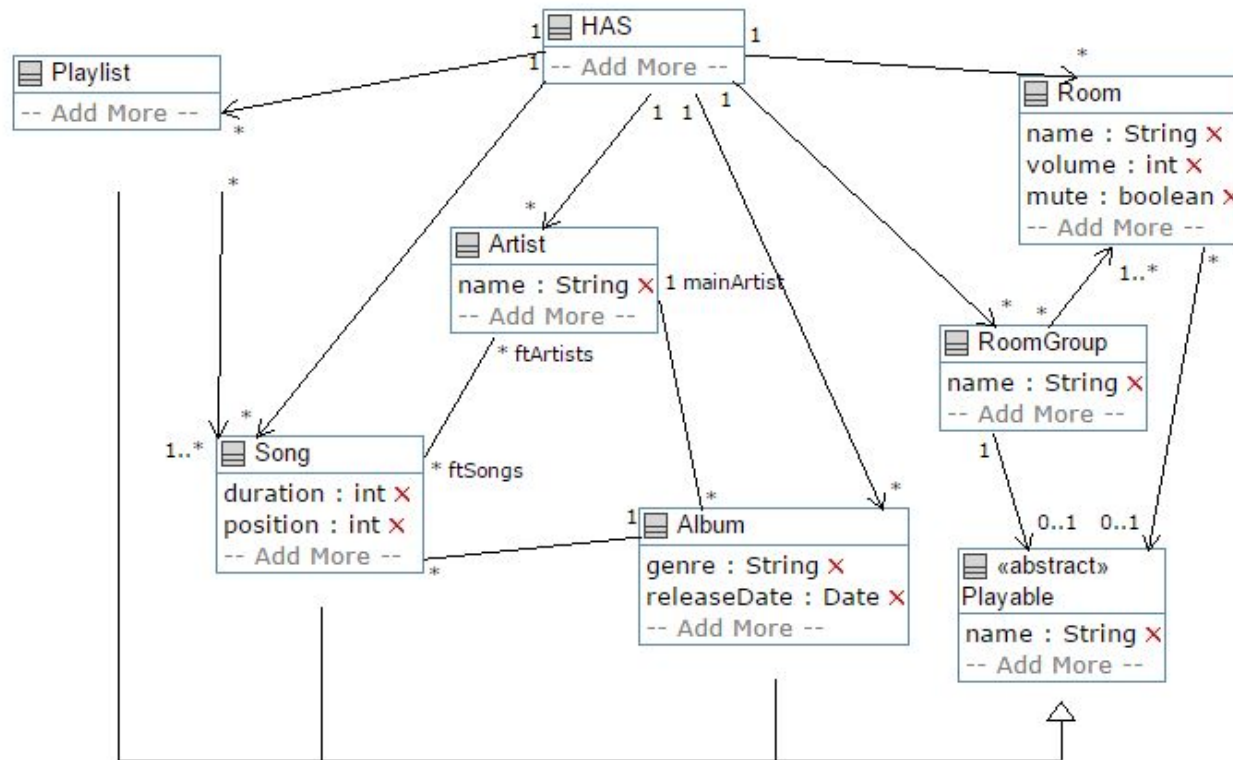
Aurelie Pluche - Java Controller Developer

Aidan Piwowar - Web Application Developer

Alex Orzechowski - Web Application Developer

Overall Unique Aspects

Class Diagram



Desktop and Android Controller

All manipulation of data such as creating music, rooms or room groups are done by the controller. One unique aspect of the controller is sorting:

- Artists, albums, rooms and room groups are sorted alphabetically within the HAS. Songs are sorted by position within an album.
- All sorting is done using the quicksort algorithm.
- The sorting of these lists occurs whenever a new object is added to that list.

```
/**
 * Sorts the artists contained in the HAS alphabetically
 */
public void sortArtists()
{
    HAS h = HAS.getInstance();
    List<Artist> artists = h.getArtists();

    if (artists.size() > 1)
    {
        List<Artist> sortedArtists = new ArrayList<Artist>();
        for (Artist a : artists)
            sortedArtists.add(a);

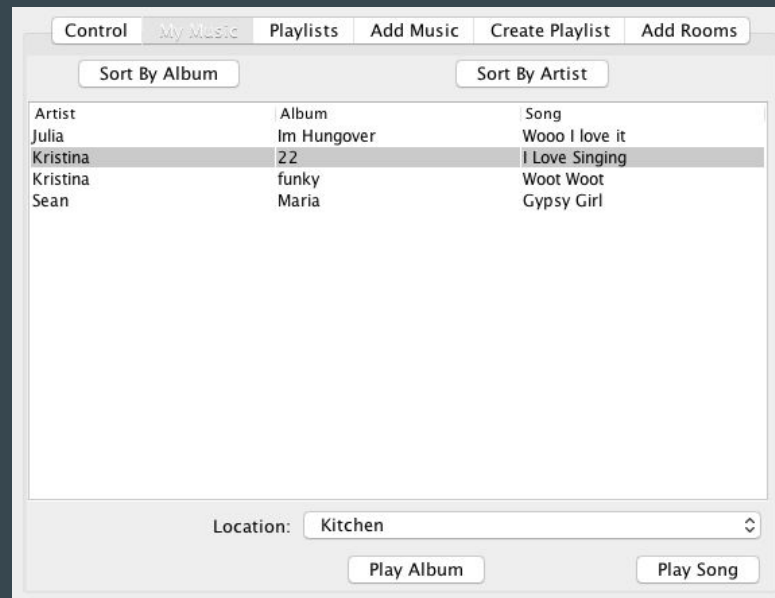
        Collections.sort(sortedArtists);
        for (Artist a : sortedArtists)
        {
            h.removeArtist(a);
        }
        for (Artist a : sortedArtists)
        {
            h.addArtist(a);
        }
    }

    PersistenceXStream.saveToXMLwithXStream(h);
}
```

Desktop View

View:

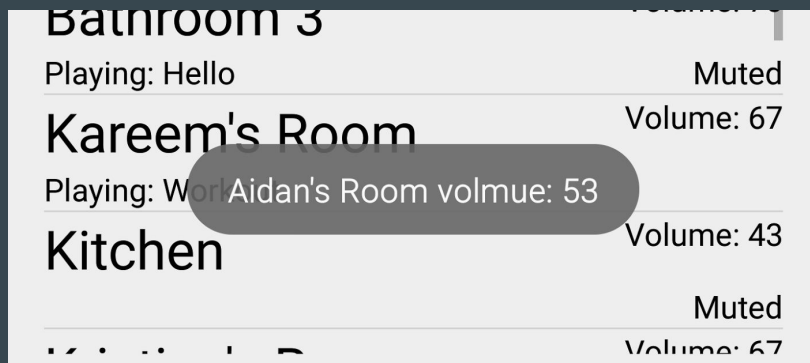
- JTable displaying music library
- JTabbedPane to display multiple views within the window
- Master volume and mute control



Android

What is unique about this part?

- Stylish UI
 - Uses elements from Android's Material Design
 - Main activity contains a view for each item
 - Factory method used to recreate layout when user switches views
- Confirmation Toasts

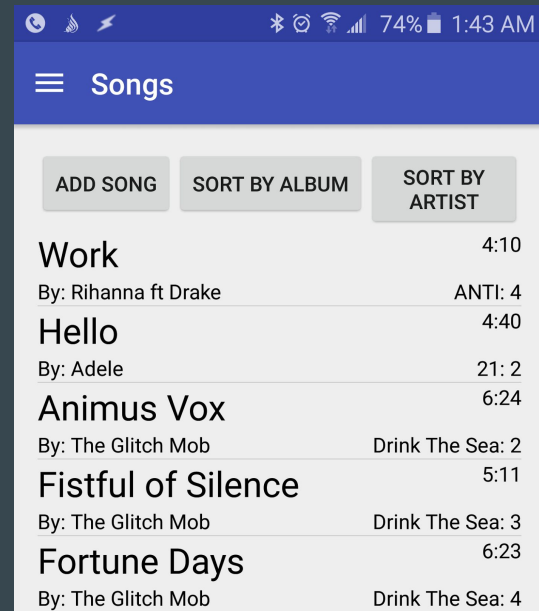


```
int id = item.getItemId();
Fragment fragment = null;

switch (id){
    case R.id.nav_artists:
        fragment = new ArtistNavFragment();
        setTitle("Artists");
        break;

    case R.id.nav_albums:
        fragment = new AlbumNavFragment();
        setTitle("Albums");
        break;

    case R.id.nav_songs:
        fragment = new SongNavFragment();
        setTitle("Songs");
        break;
}
```



WEB

- Implementation of script functions using JavaScript and JQuery
- Simplistic/retro design and easy for the client to use
- A central home page where the user can clearly choose what they want to do

Song	Album	Artist	Duration(sec)	Genre
I Kissed a Girl	One of the Boys	Katy Perry	180	Pop Rock
Stairway to Heaven	Led Zeppelin IV	Led Zeppelin	483	Folk Rock/Hard Rock
Scary Monsters and Nice Spirits	Scary Monsters and Nice Spirits	Skrillex	243	EDM
Come On	Rolled Gold	The Rolling Stones	89	Rock

Testing + Ant + Travis CI

Testing:

- Testing done both manually and through the build
- JUnit testing done for the desktop/android controller (current count: 64 tests)

Ant + Travis CI

- Build file compiles, tests, deploys and runs Desktop HAS
- Target for generating HAS library jar for use in Android HAS
- Travis CI hooked to GitHub to test every commit

The screenshot displays the Travis CI web interface. At the top, the header includes the Travis CI logo, navigation links for Status, Docs, and Legal, and the user profile 'Kareem Halabi' with a circular avatar containing the letters 'KH'. Below the header, a search bar labeled 'Search all repositories' is on the left. The main content area is titled 'W2016-ECSE321 / Group05' with a GitHub icon and a 'build failing' badge. Below the title, tabs for 'Current', 'Branches', 'Build History', and 'Pull Requests' are visible. The 'Current' tab is active, showing a build for the 'master' branch with the commit message 'Fix merge conflict issue'. The build status is 'passed' (indicated by a green checkmark and '#6 passed'). Details include 'Commit 27bda00', 'Compare 5b31c58..27bda00', and 'Kareem Halabi authored and committed'. On the right side of the build details, it shows 'Elapsed time 35 sec' and 'less than a minute ago'. On the left sidebar, under 'My Repositories', the repository 'W2016-ECSE321/Group05' is listed with a green checkmark, indicating it is running. Below it, it shows 'Duration: 35 sec' and 'Finished: less than a minute ago'.

Live Demo

Android Application

Web Application

Desktop (as screencast)