Global Record Collection Mark-up Language (Draft GRCML) and Sphere Layer Navigation Visualisation (SLNV) proposal

The problem I hope to resolve with this conceptual project is that there is no standardised format for music information for the future semantic web and no way to visualise this information in an intuitive and visually appealing format.

GRCML (Global Record Collection Mark-up Language) would aim to create a universal standard format and set of tags for music information whilst retaining some of the extensibility of XML to accommodate future expansion of the language. An example would be a <lyrics> tag which could be used without it yet being part of the standard. As its use increases it can be added. The problem from this would be the potential of competing nonstandard tags marking it difficult to standardise. Tags should be the simplest word or phrase that accurately describes their function this should limit clashes and competition. Through research I would identify tags needed currently and in the forseeable future and compile them into a specification for the format.

User tags marked with a unique user ID allow the merging of collections and the combination of multiple users into a single location for quicker indexing.

The following is an example of typical GRCML use for a single piece of music.

```
<grcml>
    <user uid="5a5sdg8f" >
        <list>
          <album>
          <title>Hold Your Colour</title>
          <art>http://albumartsite.com/3654678.png</art>
            <song>
                    <artist> Pendulum</artist>
                    <title>Through The Loop<title>
                    <length>00:06:13</length>
                    <genre>DnB</genre>
                    <track>5</track>
                    <sample>http://musicsampletsite.com/3654678.ogg</sample>
            </song>
          </album>
        </list>
    </user>
</grcml>
```

This code would be used both on its own and embedded into normal webpages as either hidden augmented data or for visualisation.

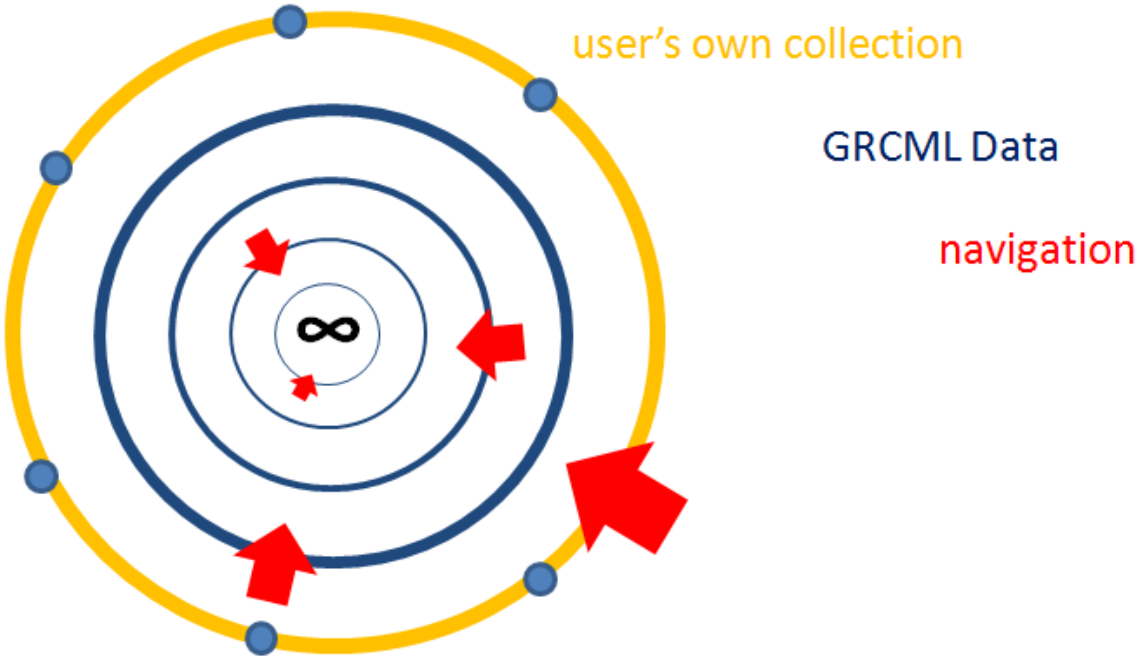
SLNV (Sphere Layer Navigation Visualisation) would utilise GRCML and attempt to move away from the flat two dimensional web of today to more intuitive 3D interfaces.

In a field such as music, suggested and related searching is useful for exploring content. If person A likes X and person B likes X and Y then it is probable that person A would also like Y. Mechanisms such as this are already used by online retailers to suggest products and in social networks to suggest adding people. GRCML would provide a huge pool of this kind of information without being influenced by market pressure.

The following image is taken from amazon.co.uk, it demonstrates a traditional flat interface and bases its suggestions only on purchases made on the site itself. A GRCML database would give a much more representative view of people's music.

The concept for SLNV is for spherically arranged panels displaying information. The sphere can be rotated in-order to explore its surface. Upon selecting a panel all other panels would explode outwards and fade away revealing a newly generated layer within. This layer would be comprised of a combination of multiple users' music collections that also had the selected option. The new layer could be generated in a number of ways, the most likely being based on the number of users with each option. The software would prevent duplicates being displayed between layers. The deeper the user explores the further away from the original layer they get in terms of content.

The external layer is not limited to a single user, it will also be possible to visualise content from groups and communities. Another idea is to allow the navigation between several spheres within the same visualisation.



The visualisation element could initially start as a browser plug-in and eventually be incorporated into browsers. It would be able to read GRCML and display it in a number of different forms including SLNV. For now however a semi functional prototype could be implemented with actionscript and possibly X3D. SLNV would attempt to be a killer application to drive the adoption of semantic web technology.

Processing mock-up displayed during presentation.