



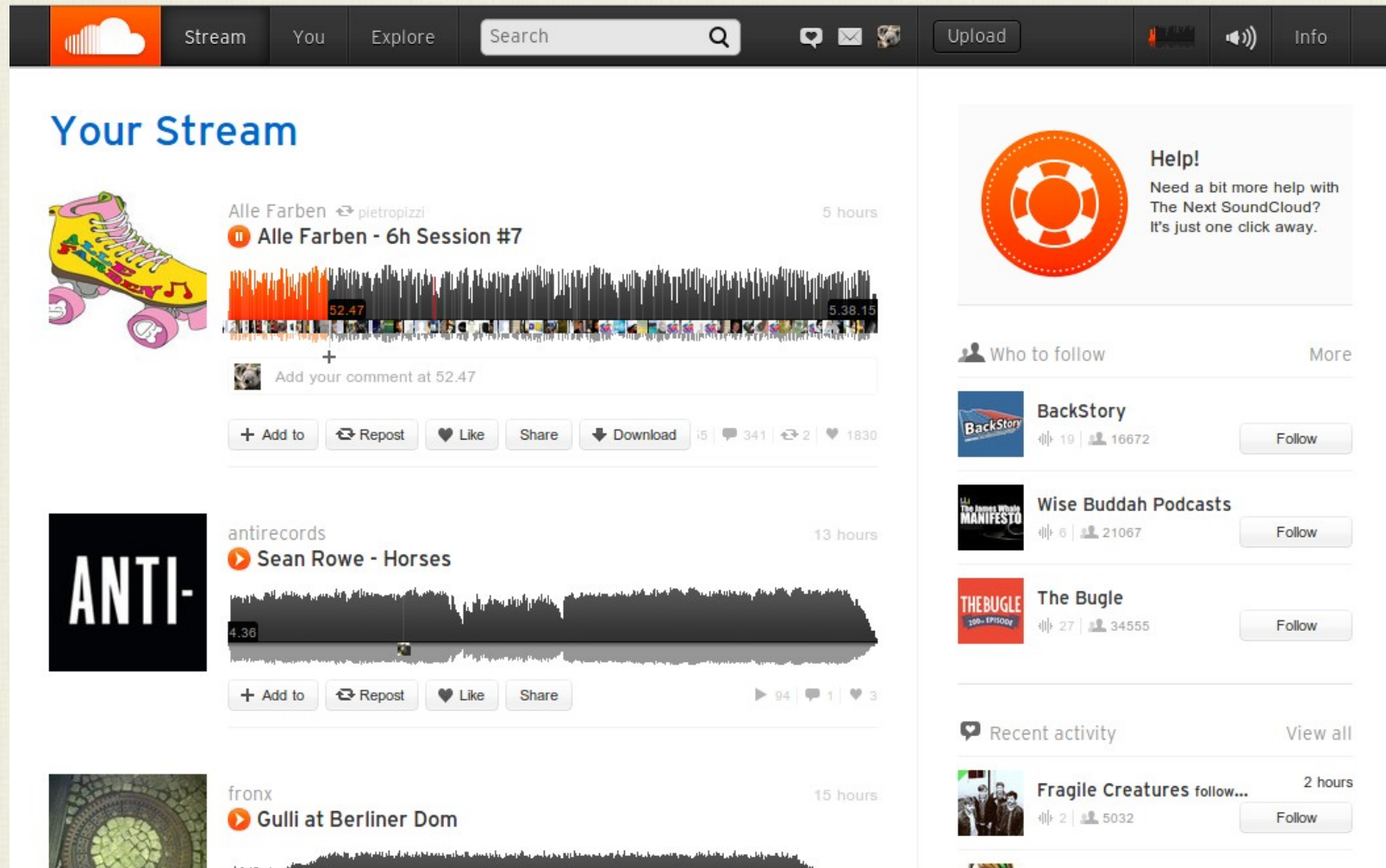
Backbone.js + SoundCloud

@spadgos

#nextsoundcloud



The Next SoundCloud



The screenshot displays the user interface of 'The Next SoundCloud'. At the top is a dark navigation bar with the SoundCloud logo, links for 'Stream', 'You', and 'Explore', a search bar, and icons for messages, email, and profile. On the right side of the bar are buttons for 'Upload', a volume control icon, and an 'Info' link.

The main content area is divided into two columns. The left column, titled 'Your Stream', features three audio tracks:

- Alle Farben - 6h Session #7** by pietropizzi (5 hours): Includes a colorful roller skate icon, a waveform, and a comment section with a placeholder 'Add your comment at 52.47'. Interaction buttons include '+ Add to', 'Repost', 'Like', 'Share', and 'Download'. Stats show 5 comments, 2 reposts, and 1830 likes.
- Sean Rowe - Horses** by antirecords (13 hours): Features a black 'ANTI-' logo, a waveform, and interaction buttons. Stats show 94 plays, 1 comment, and 3 likes.
- Gulli at Berliner Dom** by fronx (15 hours): Shows a green mosaic image and a waveform.

The right column contains a 'Help!' section with a lifebuoy icon and text: 'Need a bit more help with The Next SoundCloud? It's just one click away.' Below this is a 'Who to follow' section with a 'More' link, listing:

- BackStory**: 19 plays, 16672 followers, 'Follow' button.
- Wise Buddah Podcasts**: 6 plays, 21067 followers, 'Follow' button.
- The Bugle**: 27 plays, 34555 followers, 'Follow' button.

At the bottom of the right column is a 'Recent activity' section with a 'View all' link, showing:

- Fragile Creatures follow...**: 2 plays, 5032 followers, 'Follow' button.

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Developer tooling

How is this different from JSConf?

There are tons of interesting things happening with JavaScript right now, but we're only focusing on one: building rich, dynamic applications on the web. No compile to js languages, no highly-optimized js runtimes, no Node.

- NodeJS
- Development server
- Build script



Templating: Handlebars

- Enforce good practices
- Pre-compiled
 - Faster to render
 - Smaller to deliver
- Custom helpers



Code style

```
var PlayQueue = require('lib/play-queue'),  
    Comments  = require('collections/comments'),  
    View      = require('lib/view');  
  
module.exports = View.extend({  
  // ...  
});
```



Code style

```
var PlayQueue = require('lib/play-queue'),  
    Comments  = require('collections/comments'),  
    View      = require('lib/view');
```

```
module.exports = View.extend({  
  template: require('views/my-view.tmpl'),  
  css      : require('views/my-view.css')  
});
```



CSS AMD modules?



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Yeah. CSS AMD modules.

```
define("views/my-view.css", function () {  
    var style = document.createElement('style'),  
        data = ".myView{margin-top: 20px;} .myV...";  
  
    style.appendChild(  
        document.createTextNode(data)  
    );  
    return style;  
});
```

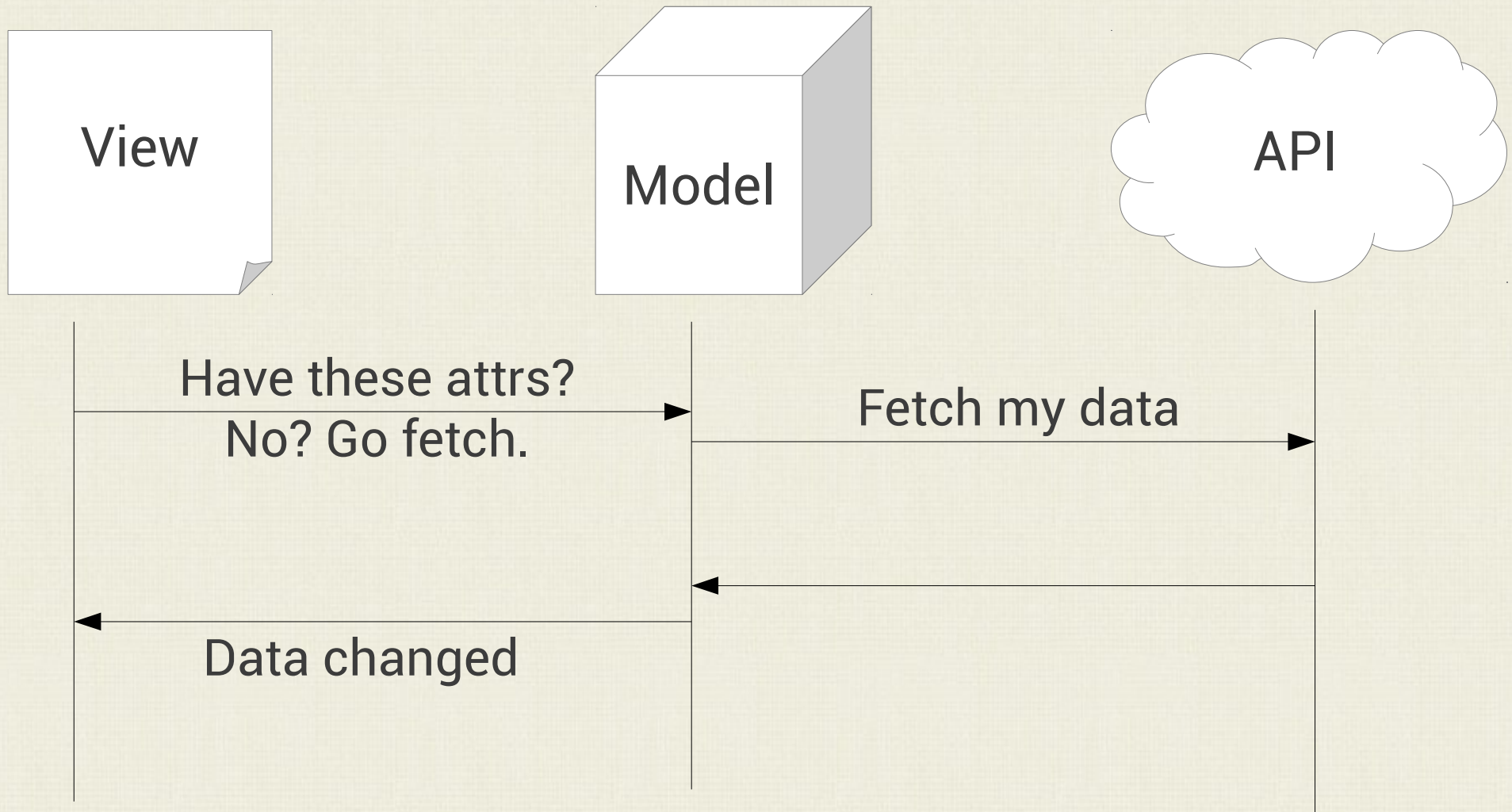


Views as Components

- **Independent & Reuseable**
- Can include subviews with subviews with subviews...
- Some are large, many small
- Must play nice



Getting data



Views added via Templates

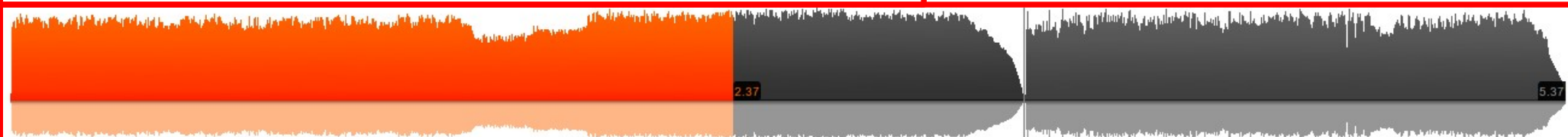
```
<div class="foo">
  {{view "views/sound/play-button"
    resource_id=sound_id
  }}
  {{view "views/user/user-badge"
    resource_id=user_id
  }}
</div>
```



All Tomorrows Parties 2

5 hours

Nightmare Before Christmas curated by Shellac



Repost Like Share

This set contains 2 sounds, total time: 5.37

All Tomorrows Parties
Mission Of Burma - Second Television
▶ 128 | ♥ 5

All Tomorrows Parties
Mission Of Burma - Dust Devil
▶ 88 | ♥ 1 | ♥ 3



All Tomorrows Parties
82 | 41404

Following

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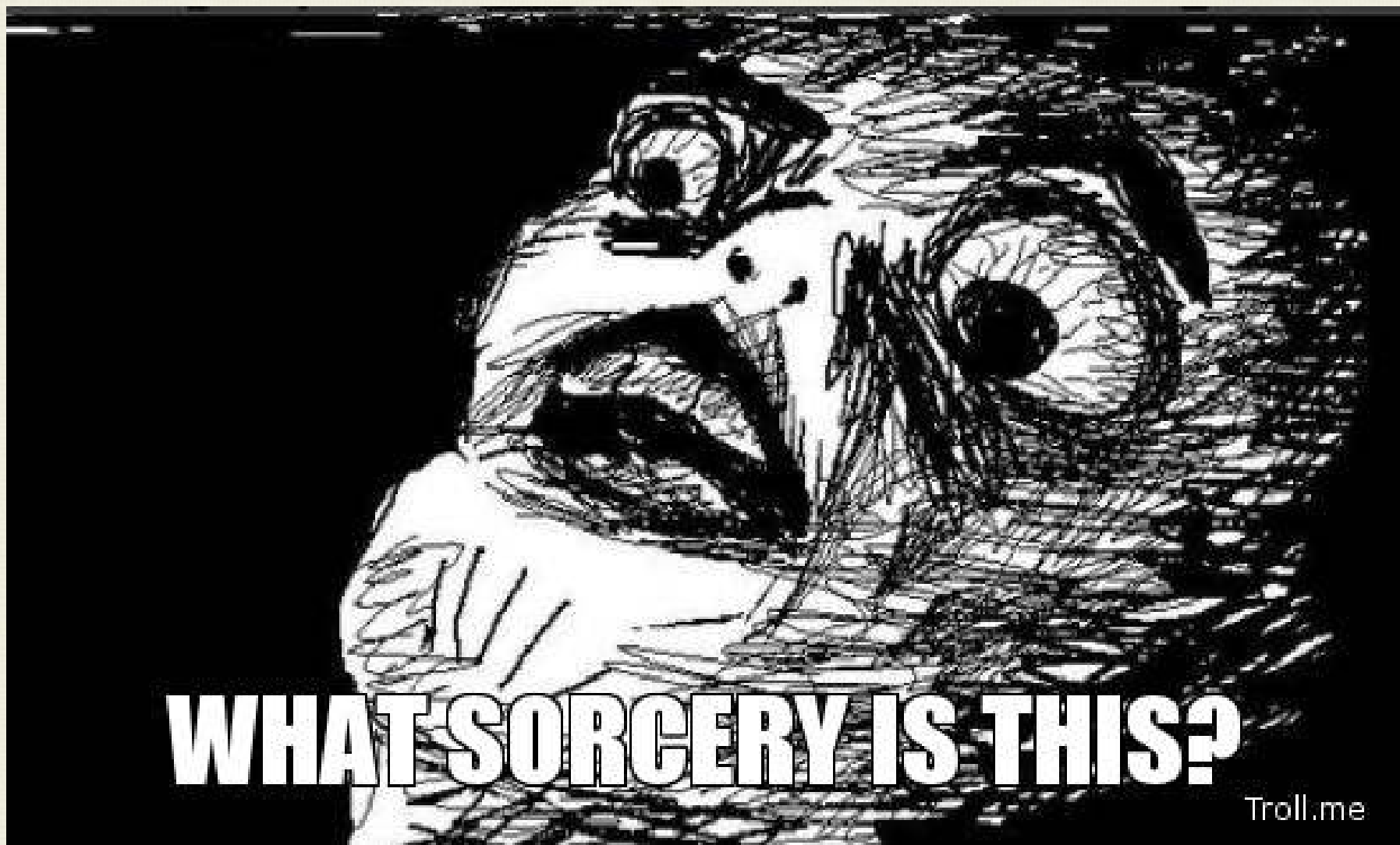
Models

- Identity map behaviour

```
var soundA = new Sound({ id: 123, title: 'Foo' }),  
    soundB = new Sound({ id: 123, genre: 'techno' });
```

```
soundA === soundB;    // true  
soundB.get('title');  // 'Foo'  
soundA.get('genre');  // 'techno'
```





WHAT SORCERY IS THIS?

Troll.me

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How?

- Instance store is just an object (in essence)
- Override Model constructor

```
01 store = {};  
02 Sound = Backbone.Model.extend({  
03   constructor: function (attrs) {  
04     var id = attrs.id;  
05     if (store[id]) {  
06       return store[id]; // ← return the other one  
07     }  
08     store[id] = this;  
09     // regular instantiation...  
10   }  
11 });
```



Problem solved!

- Models fetched once, rendered many times
- Models + events can be used to synchronise views
- Nice side effect: full use of the response



Sub-resources in a response

<https://api.soundcloud.com/tracks/52167545.json>

```
{
  "id": 52167545,
  "user_id": 2,
  "duration": 71523,
  "user": {
    "id": 2,
    "permalink": "eric",
    "username": "Eric",
    "avatar_url": "https://i1.sndcdn..."
  },
  "created_with": {
    "id": 124,
    "name": "SoundCloud iOS"
  }
}
// ...
}
```

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Releasing

- Instance store must let go at some point
- When a model is 'constructed': `usage++`
- When a model is 'released': `usage--`
- Periodically, remove unused models



Backbone + SoundCloud

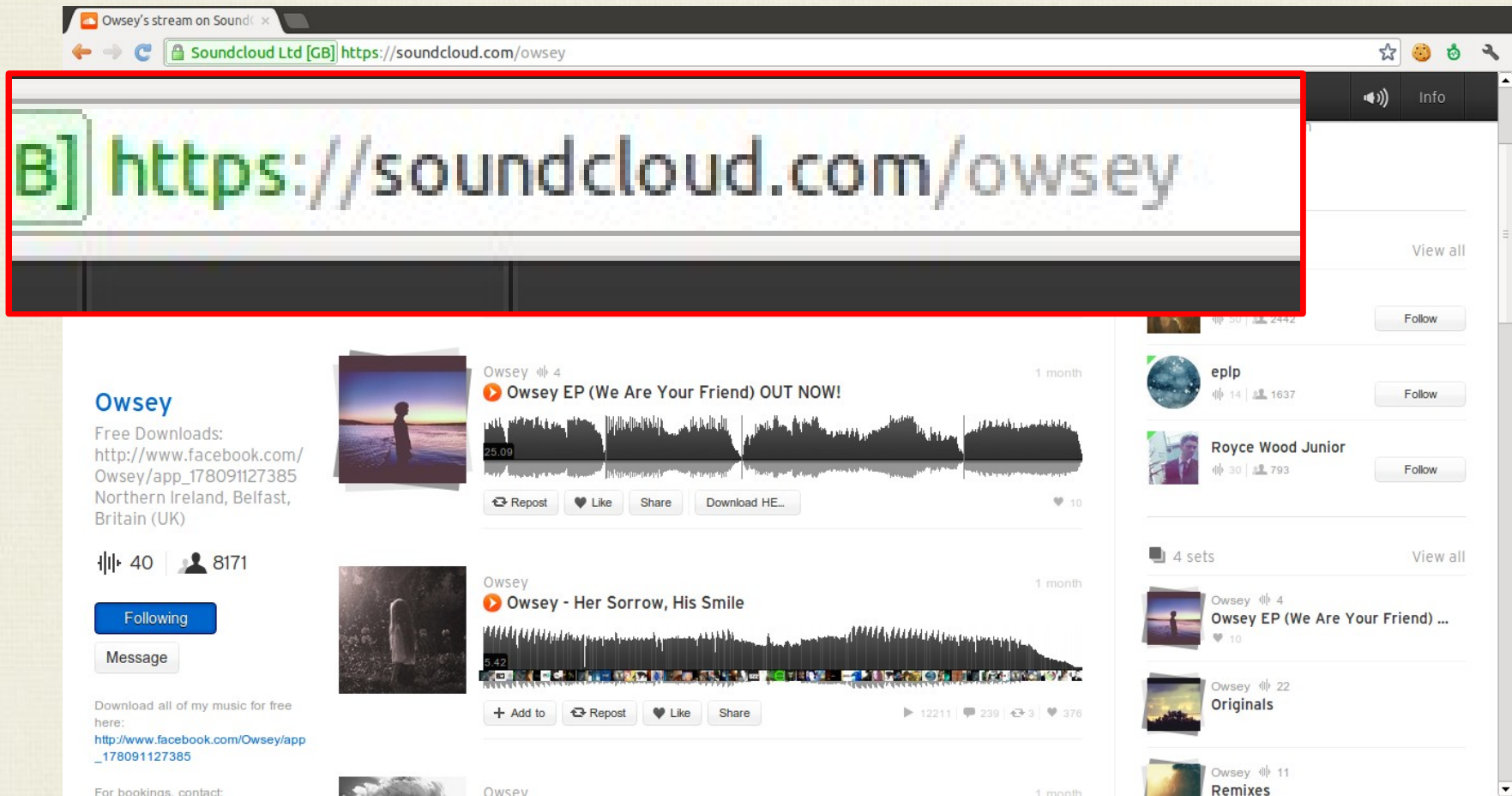


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(Not so) Private beta



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