



## Assignment 12 (HF, major subject)

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*Due: Wed 28.01.2015; 12:00h (1 week)*

### Goals

After doing these exercises,

- You can work with the Polymer library and its element catalog
- You understand how web components work
- You are aware of state of the art streaming technologies

### Task 1: HTML5, DASH

**Difficulty: Easy**

Read the Article "[YouTube drops Flash for HTML5 video as default](#)".

Briefly answer the following questions:

- a) What are the reasons for which YouTube made the switch to HTML5?
- b) Why does Adaptive Bitrate (ABR) reduce buffering?
- c) Why is reducing buffering desirable?
- d) What does "heavily congested networks" mean?
- e) What does this article have to do with DASH?

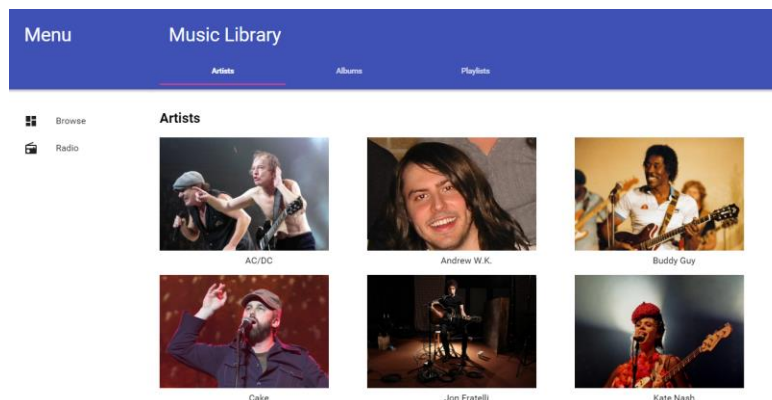
Put your solution into the folder 'task1'.

### Task 2: Music Library with Polymer Elements

**Difficulty: Intermediate**

In this task, we would like you to try out as many polymer elements from the [element catalog](#) as possible – but any number is fine as soon as you think you got a grip on them.

You should create a webpage that displays a music library including artists, albums and playlists like this:





We created a little video demonstrating the music library: <https://youtu.be/3fTV5JnPntw>

Those are the elements that we used for the sample solution shown in the video:

iron-flex-layout, **iron-icons**, iron-icons/av-icons, iron-image, **iron-pages**, paper-button, paper-card, **paper-drawer-panel**, paper-header-panel, paper-icon-button, paper-item/paper-icon-item, paper-listbox, paper-menu, paper-styles/default-theme, paper-styles/typography, **paper-tabs**, **paper-tabs/paper-tab**, **paper-toolbar** (The ones in bold script are definitely recommended)

We recommend this procedure to help you get started (links lead you to the documentation, in polymer called “component pages”):

1. Create a [paper-drawer-panel](#) first. The critical info here is, that you need to nest two elements in it: one needs to have a drawer attribute and another one needs the main attribute.
2. We recommend that you use [paper-header-panel](#) as the only to immediate children of the paper-drawer-panel (see Example 2 on its component page). You can give these panels predefined classes, e.g. `class="tall"`
3. A [paper-toolbar](#) is a suitable first child of paper-header-panel.
4. Put your [paper-tabs](#) into the paper-toolbar in the main panel of the drawer. Use data-binding on the selected attribute.
5. Use [iron-pages](#) to show the content (artists, albums or playlists). This works well together with the paper-tabs element – simply use the same bound property on the selected attribute.
6. Immediate children of iron-pages are the actual “pages”. That means the first child element will be the first page and so on. We used `<section>` elements for that, but this is not required.

Do not hesitate to contact us with your questions. We will build on your knowledge in the next tutorial, so it is important you know your way around using the web-components from the catalog.

Put your solution containing your bower.json, html and css file into the folder ‘task2’. **Please do not submit the bower\_components folder!**

### Task3: Tell us what you think about Polymer

This is the first time that we used Polymer in the tutorials and we’d love to hear what you think about it so far (e.g. regarding difficulty).

Please put your comments as a text or PDF file into the folder ‘task3’

### Submission

Put the solution to all tasks into a ZIP folder. Please turn in your solution via UniWorX. You can form groups of up to three people. After the submission deadline, push your solution to our [GitHub repository](#).