

AEK Introduction

Welcome

Quick Introductions

"The AEK"?

- **Application Extension Kit**
- Technique for delivering cross-platform application screens via a webview
- A development framework that provides a responsive front-end to integrate with the CampusM platform
- A web based environment for developing, testing and deploying application screens via App Manager

App Manager

Quick overview of App Manager

appmanager.ombiel.com

AEK Version 1.0

(Demo) Quick example of creating an AEK screen with the AEK 1.0 toolset

AEK 1.4 Documentation

Advantages of AEK 1.0

- Easy to learn and achieve simple screens with minimal technical knowledge
- Web interface is very portable
- Changes can be made quickly and shared easily

Disadvantages of AEK 1.0

- Over 5 years old
- Server-side rendering
- Poor offline experience
- Limited functionality scope
- Poor End-User Experience
- Single code page makes maintaining complex screens difficult

AEK 2.0

- Launched about a year ago
- Still in it's infancy and very actively developed
- Many AEK 2.0 screens already in production
- Used internally at CampusM as well as amongst our customers

AEK 2.0 Goals

- Provide a more sophisticated development environment
- Promote client-side processing over server-side
- New features through closer integration with the CampusM native clients
- A modular approach to provide the greatest flexibility for customer's differing needs
- Latest industry standard tools and techniques where possible
- Make use of the thriving open source javascript community
- Promote sharing and collaboration between CampusM customers

AEK 2.0 Advantages

- New features and native integrations
- Better Offline experience for end-user
- Up-to-date look and feel with faster and richer UI
- Developers are free to develop in their preferred environment and use CVS and workflow tools
- Huge resource of open source modules at the developer's disposal
- Modular nature allows customers to pick and choose the tools they need from the AEK

Javascript

- Historically Javascript has had a bad name
- Has risen in use/popularity dramatically in the last few years
- Emergence of NodeJS on the server-side
- General attitude of embracing JS due to ubiquitous presence in browsers and webviews
- Open nature of client-side JS has contributed in a generous and thriving developer community
- NPM now has over quarter million available packages and nearly a billion downloads a week

Compiling / Transpiling Javascript

Javascript as a language is still not always popular

It has some limitations and many quirks that are unattractive to developers coming from other languages

This has lead to a huge array of lanugages that compile/transpile to javascript

Popular JS Transpilers

- CoffeeScript
- TypeScript
- and **loads more...**
- BabelJS

(Supports ES6/ES2015/ES7/JSX features and transpiles to well supported ES5 JS)

ReactJS

- Emerging Framework
- Not a Full MV* Framework (compared to Angular, etc)
- Promotes Unidirectional Data Flow
- Component Driven Architecture
- Supported by declarative JSX syntax

React Component

```
var MyButton = React.createClass({  
  render:function() {  
    return (  
      <button style={{color:this.props.color}}>  
        {this.props.children}  
      </button>  
    );  
  }  
});
```

React Rendering

```
var content = (  
  <div>  
    <MyButton color="#990000">Red</MyButton>  
    <MyButton color="#009900">Green</MyButton>  
    <MyButton color="#000099">Blue</MyButton>  
  </div>  
)  
  
React.render(content, document.body);
```

Result

```
<html>
  <body>
    <div>
      <button style="color:#990000;">Red</button>
      <button style="color:#009900;">Green</button>
      <button style="color:#000099;">Blue</button>
    </div>
  </body>
</html>
```

CSS Preprocessors

- LESS
- SASS
- Stylus

AEK 2.0 Modules

- AEK CSS
- AEK LIB - Tools / React Components
- AEK CLI
- AEK Buildtools
- AEK Boilerplates
- AEK Registry
 - NPM compatible registry
 - Web UI provides **documentation**

AEK CSS

Universal, Mobile Friendly, customizable CSS framework tailored to the AEK

Built from SemanticUI

Designed to accompany AEK React Components...

... but also works well independently

Call a button... a "button"

```
<a class="ui button">Hello</a>
```

All css classes have semantically appropriate names that can be combined to form readable, human friendly code

```
<h3 class="ui right aligned dividing header">  
  <i class="home icon"/>  
  Lorem Ipsum  
</h3>
```

[View The Docs](#)

AEK LIB

A modular Javascript library of general utilities, AEK specific integration tools and optional React based UI components

[View The Docs](#)

AEK CLI

A command line interface to help customers create, develop, manage and deploy their AEK projects

For humans and machines

AEK CLI provides both a human friendly UI as well as a scriptable interface you can utilise within your own automated processes

NPM

Much of AEK CLI is underpinned by NPM

Provides a familiar and commonly supported interface

Enables users to cherry pick open source modules from the vast array on the public NPM registry

View The Docs

AEK Buildtools

A set of build time tools to prepare projects for local testing and production deployment

Gulp

Preconfigured gulp plugins with sensible defaults for common build tasks

Webpack

Preconfigured but customisable module bundler with many built-in plugins.

JS Transpilers

ES6/JSX (Babel)

Coffeescript

Uglify (for production)

Source Maps

More can be added

CSS Pre/Post-Processors

LessCSS

Stylus

Auto-prefixer

More can be added

AEK (Twig) Code templates

ECT Build time templating

AEK Boilerplates

AEK projects can require a fair amount of boilerplate code

CampusM provide a few standard starterkit boilerplates for specific project types

We can help develop your own boilerplates to meet any specific requirements

AEK React Boilerplate

AEK Registry

Follows the main NPM protocols and is directly compatible with most NPM commands

Allows for access control, modules can be restricted to specific users or organisations

Customers can share modules with the AEK community

AEK 2.0 Demo

Yahoo Weather Screens