title
Bootstrapify Universal Theme

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Introduction

All APEX applications build with Universal Theme look the same!
Themeroller does allow only limited customizations, basically some colouring. Because UT is so strongly integrated with the framework, structural changes to the templates are discouraged, even un-recommended, as you will have to unsubscribe from the original theme and lose the ability to upgrade with future versions. Plus: applying custom CSS is not a trivial thing to do with UT.

So overall, Theme 42 isn't the answer to everything.

Creating a new theme from scratch is lots of work. You will have to spend many hours (thus money) and you will have to master many difficulties, that already have been solved in UT. AND you will have to maintain it! Online you can find visually appealing designs for applications (google: Admin Theme), but these are almost all based on Bootstrap.
My presentation will demonstrate an approach, to integrate any Bootstrap Theme as an extension to UT, step by step, and explain the prerequisites, techniques, possibilities and restrictions that apply, as learned in real projects.

History of APEX Themes

Looking back to previous versions of Oracle Application Express, there was always a catalogue of user interface designs installed with the APEX framework. With evolving device capabilities and user behaviour, APEX themes got more and more advanced, offering responsive components and mobile capabilities. With APEX version 5, the development teams strategy changed, by offering one theme, the Universal Theme, to replace all other themes. Universal Theme is promoted to be responsive, versatile and customizable.

Universal Theme

Universal Theme offers a great range of predefined templates and components. This makes developing applications with APEX very easy, for all levels of Oracle developers.
The Universal Theme is so tightly integrated into the APEX framework, it's hard to distinguish between framework features and theme specific features. Most developers don't know the difference anymore and, understandable, don't care, as Universal theme becomes the preferred tool. As a result, the vast majority of APEX applications will have the same (very recognizable) look and feel. That's not necessarily a bad thing. But it is getting more difficult to customize the UI od an APEX application, if necessary.

Why a Custom UI in APEX?

For most APEX projects, the Universal Theme's look 'n feel and customization options are more than sufficient. But sometimes you need something different. A different User Experience, because your audience is expecting different. It depends on the purpose of your application. Branding or maximizing conversion can be important factors that influence the design of a user interface.

Customization Options

What are the options to create a custom UI in APEX?

Modifying Universal Theme by breaking the Universal Theme subscription? Possible, but one will lose the upgrade possibility of Universal Theme.

Overwrite the Universal Theme CSS, thus keep subscription and structure in place. Well, you will need strong CSS knowledge. The Universal Theme CSS has a degree of complexity and is dynamically altered by JavaScript, it's not very accessible for developers with basic CSS knowledge.

Develop an entire new Theme from scratch? This has been done, but it is very time consuming and thus expensive. You will need extensive web design expertise to manage this. And let's admit, most APEX developers are not web designers!

How about converting a ready-made HTML theme into an APEX theme, as available from the internet? You still have to convert the HTML into APEX templates. But there is a choice, how much templates I have to convert and which approach I follow. This is promising.

The ideal custom theme should be cost effective, easy to maintain and offer nothing less, but the full functionality we are offered by the Universal Theme. It shouldn't replace or change the Universal Theme, but extend it with the UI components we need.
Looking at available frameworks and themes, Bootstrap is the most used front end framework in the world. Comparing Universal Theme with Bootstrap, there are many similarities in the structure, which makes it possible to integrate Bootstrap (components) into Universal Theme.

Bootstrapifying Universal Theme

By adding the core/determining visual elements of a Bootstrap Theme as templates to an applications Universal Theme, without having to break the subscription of Universal Theme itself and keeping all Universal Theme templates untouched, you can easily adapt a significant different UI in APEX.
My presentation will walk through the basic steps for such a customized UI, based on a of-the-shelf Bootstrap theme.

Conclusion

- UT is the standard
- Customization is possible
- Extending UT is cost effective
- Some CSS/HTML/JS skills needed

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