Supporting and Modernizing Legacy Homegrown Web Apps

Craig M. Wellington
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The Texas A&M University System's Office of Marketing & Communications is revamping the System's website to create a better experience for both our external and internal audiences.

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THE TEXAS A&M UNIVERSITY SYSTEM
Systemwide Job Search

Welcome to the A&M Systemwide job search. This site allows you to search open job postings from all members of the Texas A&M University System.

The Texas A&M University System is one of the largest systems of higher education in the nation, with a statewide network of eleven universities, seven state agencies, and a comprehensive health science center. The A&M System is committed to providing an educational and work environment that is conducive to the personal and professional development of each individual employee. Equal opportunity and access will be provided throughout the A&M System to all students, employees, and prospective employees.

Employment opportunities for all A&M System members and locations are updated daily and posted on this searchable website.

Keywords

Location

Any

Search
Don't be a victim!

Two-Factor Authentication is the best way to protect your account.

Visit the SSO Security page for additional information.
Mr. Sandman
Admit to the problem
Legacy Web Apps

Offer a poor user experience

Difficult to improve

Replace/Rewrite becomes the *de facto* option
Agenda

Leverage a modern *UI*

Change our *Approach* to maintenance

Make impactful *Architectural* changes
To What End?

Adapt more easily to change

Be more responsive to our customers and developers

Get more life from the apps we need and use
UI

Outdated styles and branding

Disjointed experience

Custom stylesheets

Built using legacy technologies
Mastering Your CSS

One canonical CSS

Choose a methodology

- BEM - Blocks, Elements and Modifiers
- SMACSS - Scalable and Modular Architecture for CSS
- SuitCSS, OOCSS, et. al.

Tools:

- Sass
- webpack
Frameworks

B

Z

P

CSS
Legacy CSS

Explorer 8. “End of Lifeus”
UI Recap

Meaningful changes, minimal impact on functionality

Pick a methodology and framework, leverage it

Build for the future
Approach
The Fate of Legacy Apps

REPLACE OR REWRITE

Does it meet business needs?

NO

ACCEPT THE STATUS QUO

UNTIL

NO

Is it on fire?

NO

YES

WORK ON SOMETHING ELSE

APPLY DUCT TAPE

YES

MOSTLY

THEN
Maintenance Pitfalls

Needs Assessment?

Customer Engagement?

Cost/Benefit?

Project Management?
Approach Recap

Managing maintenance and technical debt is key to the lifecycle of any application.

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Architecture

Refactoring

Decoupling

Rewriting
Lipstick on a Pig

Middleware Proxy

Shiny Output

Legacy App

Legacy Output

JS
Backend

Build composable microservices

Use a legacy database ORM
Architecture Recap

Refactoring is always welcome

Opportunities to reuse business logic

Build in layers, using APIs

Control scope
Legacy Web Apps

Present challenges to both users and developers

Are rigid, fragile, and immobile

Succumb to debt and poor maintenance
Lessons

Legacy Web Apps are not intractable

Use modern CSS frameworks, methodology for UI

Approach maintenance and technical debt properly

Replace aging architecture for longevity
Step 3, Profit!

Reduce or remove constraints to change

React to changing user and customer expectations

Get the most from our investments in applications
ROADS?

WHERE WE'RE GOING, WE DON'T NEED ROADS.
Credits and Copyrights

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Code
BEM and SMACCS examples, adapted from csswizardy.com

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Original Content
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Blocks, Elements and Modifiers

.block {}
.block__element {}
.block--modifier {}

.site-search {} /* Block */
.site-search__field {} /* Element */
.site-search--full {} /* Modifier */

.person {}
.person__hand {}
.person--female {}
.person--female__hand {}
.person__hand--left {}
SMACCS

.my-module
    background-color: maroon
    position: relative

> a
    color: aqua

.my-module--important
    @extend .my-module
    border: 3px solid fuchsia

.my-module--is-active
    background-color: red

.my-module__close-button
    position: absolute  right: 0  top: 0