

Building a Modern Statistical Website - SCAD's Experience

IAOS Conference 2016 Abu Dhabi, UAE

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Abu Dhabi, July 2016

Abstract:

The internet, and the websites within, are evolving at an ever increasing pace. Correspondingly, user expectations of websites are continually shifting. National statistical offices (NSO) need to proactively embrace these changes - for to ignore them is to invite criticism, or worse, evasion.

In 2015, the Statistics Centre – Abu Dhabi (SCAD) embarked upon an extensive redevelopment of its website. At the time, the primary objective was to increase the number of users visiting the site. However, along the way we: gained a greater understanding of our clients; became exposed to new design concepts; invested in new technologies; and won some accolades.

This paper aims to highlight the processes undertaken by SCAD's Web Services Team from conducting an 'as-is-analysis' through to launching a user-centric, responsive design website.

The paper will detail the major phases of the redevelopment project and discuss some of the pertinent lessons learned along the way. It will also discuss some of the new technologies and design concepts that a modern statistical website should employ. This paper will benefit any NSO considering a redevelopment of their current website.

Key words: *website; statistics, responsive design, user experience, internet, mobile, technology.*

1. Introduction

1.1 Abu Dhabi

Abu Dhabi is the federal capital of the United Arab Emirates and the largest of the seven emirates. Geographically, Abu Dhabi lies on the borders with the Kingdom of Saudi Arabia, the

Sultanate of Oman, and the Arabian Gulf. Over the past 40 years, Abu Dhabi has experienced significant population growth and economic development.

1.2 Statistics Centre – Abu Dhabi

SCAD was established in accordance with Law #7 for the year 2008. SCAD is responsible for the collection, classification, storage, analysis and dissemination of official statistics covering social, demographic, economic, environmental and cultural indicators.

As a young statistical office, SCAD is in the fortunate position of being able to implement best practices from international bodies and leading NSOs. SCAD is aiming to be a world leader in efficient methods of data collection, analysis and dissemination.

2. SCAD Website Review and Analysis, and Strategy

In recognition that the digital world is constantly evolving and user expectations of websites are shifting, SCAD in 2014, engaged an independent consultancy to review its website. The company was tasked to: consult with users and other stakeholders; review the site's structure and content; prepare an analysis of the current state; and offer recommendations for improvement.

2.1 Review and Analysis Phase

The review and analysis of the former SCAD website covered four perspectives:

2.1.1 User Experience Study

The study involved observing and interviewing two focus groups containing external SCAD website users. The users were provided with several scenarios to find specific content on the website. Their 'click paths' and general interaction with the site was observed. Users were also interviewed about their thoughts on the website (e.g. design, content, navigation, etc.)

2.1.2 SCAD Stakeholder Interviews

Interviews with SCAD Department Managers were conducted. The managers also responded to a questionnaire – where the topics included: SCAD's strategy, customer awareness, internal workflows, external communication, website statistics, editorial guidelines, etc.

2.1.3 Expert Analysis

Employing the consultant's experience in reviewing similar government websites, the expert analysis included: technical study of website performance, HTML coding practices, search engine optimisation, etc.

2.1.4 International Best Practice

A review of leading statistical websites was performed to ascertain best practice functionality, design, and tools.

2.2 Strategy Phase

The Strategy phase was based on the findings from the Review and Analysis phases. It was a key deliverable of the project as it identified challenges, recommendations, and actions. These were classified into four perspectives: Context; Content; Technology; and User.

2.2.1 Context

Context analysis is a method of looking at the internal and external business environment. The organisation structure, core business areas, communication channels, and interaction with stakeholders are considered.

Recommendations included:

- Enhance website marketing activities
- Make user feedback ubiquitous
- Consolidate and expand interactive tools

2.2.2 Content

Providing valuable content is one of the most crucial success factors for SCAD's digital strategy. The content of a website relates to the quality of the outputs, information architecture, usability and design. Content analysis covers aspects such as: content delivery, user experience and click paths, content organisation and layout, navigation, content tonality, format and cross-linking.

Recommendations included:

- Apply simple overview text for publications
- Develop a Search Engine Optimisation (SEO) strategy
- Improve top level navigation
- Optimise content for mobile and other devices

2.2.3 Technology

An analysis of the technical environment for hosting and presenting the website, as well as the content management system used to update content.

Recommendations included:

- Improve website speed (reduce HTTP requests, resize images, etc.)
- Apply responsive design for multiple screen sizes
- Upgrade to latest SharePoint version

2.2.4 User

A website's success is ultimately evaluated by its users. For that reason, online products and services must be developed from a user perspective. That is, the information they need and their searching behaviour.

Recommendations included:

- Create a modern and appealing website design
- Offer more user interaction with data
- Reduce click path to content
- Offer more user feedback opportunities

3. Design and Implementation

Taking into account the Strategy recommendations, SCAD has applied the following solutions.

3.1 Apply a Modern Flat Design

The Review and Analysis phase highlighted that users were looking for a more modern, interactive, and responsive website, where accessing data was simple and intuitive.

A modern web concept is the use of 'flat' design compared with more traditional 'skeuomorphic' design (resembling the real world). A flat website design is a popular concept because it focuses solely on the content. It removes a lot of the more complicated textures, patterns, shadows, bubbles, gradients, and other shiny effects - to focus on simplicity. Minimalism is a big part of this design idea. ^[1] For a comparison of flat versus skeuomorphic design, see Figure 1.

SCAD reviewed several flat design concepts and progressively reworked these into a set of final design templates (e.g. home page, content pages, etc.).

3.2 Implement a Responsive Design Website

It is important to SCAD that the website incorporates latest web page design standards. The single biggest recent change in the web development environment has been the progression towards 'responsive web design'. As the name suggests, responsive web design reacts to the user's viewport, device, or platform. Essentially, it is a design that can attractively adjust to any screen resolution. [2]

As mobile browsing outpaced desktop usage in 2014 [3], organisations began to realise that a website must have a mobile strategy in place. Moreover, the increasing variety of devices and screen sizes require designs to be more flexible than ever before.

The anatomy of responsive design [4], (see Figure 2) can be characterised by three primary concepts:

3.2.1 *Fluid grids*

Organising content into a grid layout with relative (rather than fixed) measures. That is, each element is designed with proportional widths and heights instead of pixel based dimensions. Whenever the device or screen size is changed, elements will adjust their widths and heights by the specified proportions.

3.2.2 *Flexible images*

Images that adjust to fit a user's screen size. The images are contained in fluid grids and resize without sacrificing any of their aspect ratio.

3.2.3 *Media queries*

Different styles are applied according to the detected device. These styles (CSS) will vary specific qualities such as screen width, height, orientation, etc.

3.3 Benefits of Responsive Design

There are several benefits to the user and organisation by employing responsive design:

- ***Flexible***: Responsive web design means you build once and the content can move freely across all screen resolutions and all devices. See Figure 3.
- ***Enhanced User Experience***: Users are not limited by an organisation's website preferences – that is, they can interact with the content on any device, at any time.

- **Cost Effective:** Developing and maintaining one website, costs less than two. That is, it takes less time and money than creating an additional stand-alone mobile site.
- **Increase Visibility in Search Engines:** Google recommends using responsive web design. It is easier for users to share and link to content with a single URL and it helps Google's algorithms accurately assign indexing properties. ^[5]
- **Increasing reach to tablet and mobile audiences:** Increasing use of the internet and proliferation of web applications on tablet and mobile devices has been a driving force behind responsive web design.

3.4 Improved Feedback

In addressing the user interaction and feedback concerns raised in the Strategy phase, SCAD has introduced ubiquitous feedback options. For example, each specific publication, statistical tool, or mobile app has a user feedback option (see Figure 4). Additionally, there is an option for general feedback about the website. Captured user opinions are shared with relevant teams as part of ongoing improvement processes.

3.5 Live Chat

In addition to the normal client services functions, SCAD has introduced an online 'Live Chat' facility on the website. It enables users to ask any questions about the website or contents and receive an immediate response from our Client Relationship Management officers (see Figure 5).

3.6 Improved Navigation

It is important to SCAD that users 'get to' the data they require in the shortest time possible. The new themed navigation enables clients to download a publication (PDF) or data table (XLS) in just three clicks. SCAD's home page is dominated by six icons representing the statistical themes, making it easier for users to identify the correct navigation path.

3.7 Consolidated Interactive Tools

A strategy of the new SCAD website was to consolidate all interactive tools and data visualisations into a single location. These were previously available via another website. These popular tools provide alternative ways of visualising and interacting with statistics.

4. Conclusion

By undertaking user experience studies, stakeholder interviews, expert analysis, and international best practices, and by evaluating website context, content, technology, and users – SCAD has built a website that meets client expectations and utilises modern web design techniques.

Since the release, the new website has witnessed a seven per cent increase in user traffic and feedback about the new design and functionality has been positive.

Through this initiative, SCAD has contributed to its responsibility of improving the quality, timeliness, and accessibility of statistics produced in the Emirate of Abu Dhabi.

5. References

[1] Jake Rocheleau, *Ultimate Guide to Flat Website Design*, UI/UX, <http://www.hongkiat.com/blog/flat-design-resources/>

[2] Jerry Cao, *The Web in 2016: Long live responsive design*, January 2016, Design & Dev, <http://tnw.to/s3RO6>

[3] ComScore, *The U.S. Mobile App Report*, August 2014

[4] Vignesh Ramachandran, Mashable, Aug 09, 2013, <http://mashable.com/2013/08/08/responsive-design-best-practices/#s4bCdFb2Sgqz>

[5] Google, *Responsive Web Design*, <https://developers.google.com/webmasters/mobile-sites/mobile-seo/responsive-design>

6. Figures

Figure 1: Flat versus skeuomorphic design



Figure 2: Anatomy of responsive design

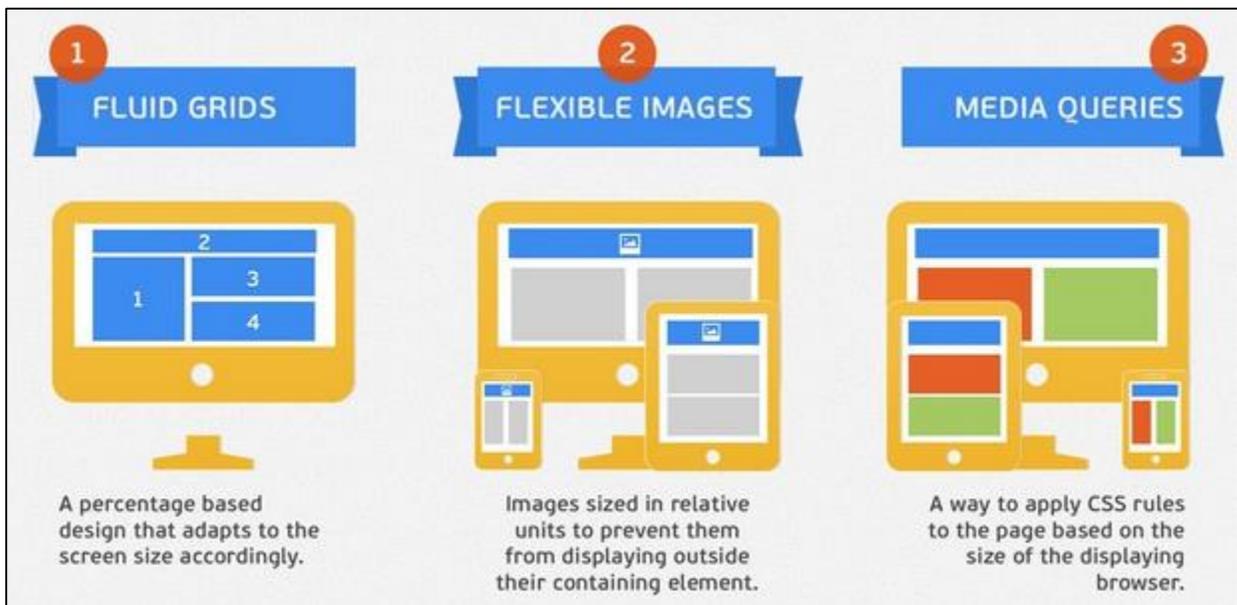


Figure 3: Responsive design example



Figure 4: SCAD publication feedback

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Abu Dhabi Statistics / General Publication / Statistical Yearbook of Abu Dhabi

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Figure 5: Live Chat

