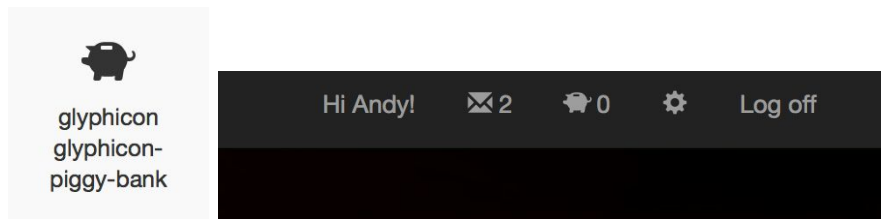


# Bug Report: Extensive Styling Bugs

## Background

The work related to this artefact began as a bug fix for the “*Piggy Bank Glyph Not Showing*” bug reported by Eric, which reported that the Piggy Bank Glyph (a Glyphicon including in Bootstrap) was not displaying on the Navigation Bar. It should be noted that although no specific bug reports were made, there has been some strange things happening regarding styling identified by the development team prior to this.



*The Bootstrap Glyph (left) and its use in the Navigation Bar (right)*

The bug report is included below (and was entered into Jira the next day):

Table: Excerpt from the [BugSquidge bug management system](#)

Reported By	Date	Name the Bug (optional)	Description	Completed by
Eric	12th-Oct	Piggy Bank Glyph	Piggy Bank Glyph not showing correctly on Nav-Bar	Andy

## Triage

There were four key issues related to styling that were triaged and solved as a part of this bug fix.

1. Bootstrap Fonts
2. MIME types on Azure
3. Inconsistent References to Scripts and Stylesheets
4. Multiple Master Layouts and Partial Views

Each of these is detailed below.

## Bootstrap Fonts

The project skeleton included Bootstrap 3.0 JavaScript (JS) and Cascading Style Sheets (CSS), and made use of the included classes and JS in the navigation bar and general layout of the default views.

After some research I was able to identify that the “Piggy Bank Glyph” is included in the latest version of Bootstrap (3.3.5), but not in the included version (3.0). For this reason we needed to update Bootstrap in order to use the new icon.

I could have chosen to solve this by including the links to the latest Bootstrap version from MaxCDN (a content delivery network provider who is recommended by Bootstrap). This places a reliance on MaxCDN (if their servers are down, our styling is down), but also guarantees that the site will always use the latest version of Bootstrap, which may include bug fixes. This would be ideal for an application that is going to be under continued development. Since development will soon cease on our application, I chose to download the latest version of the Bootstrap source (minimised files included) and update the project this way.

These changes were included in commit [55a3046](#).

## MIME types on Azure

This didn't entirely fix the problem locally, and didn't fix the problem at all remotely. On my local server, sometimes it glyph would appear, and sometimes it would not. On the live version of the application hosted on Azure, the glyph would never appear.

I did some more research and eventually found out that Azure will only handle a default set of MIME types, possibly as a security precaution. This default set does include .woff files (the fonts filetype used for the first set of glyphs in Bootstrap version 3.0), but it doesn't include .woff2 files (the fonts file used for the second set of glyphs introduced in the newer versions of Bootstrap). For this reason .woff2 files needed to be explicitly approved for use in the web.config file.

These changes were included in commit [870c791](#).

## Inconsistent References to Scripts and Stylesheets

Throughout the project, scripts and stylesheets have been linked to from the views in a number of ways. The original method was using the Bundles feature included in ASP.NET MVC, which allows bundles of JS and CSS to be linked to from the Views with a single line of Razor code. The second method is to include the `@Scripts.Render()` method. The third method is using standard html to link to JS and CSS files.

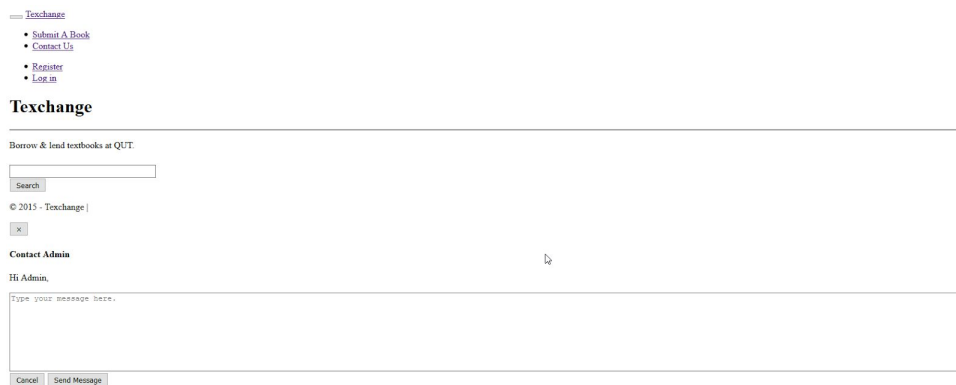
## Bug Report: Extensive Styling Bugs

Since Bundles do take some setting up and were not entirely obvious at first glance, I decided it would be better for the team if JS and CSS were called out explicitly in the views, however it made sense to capitalise on the “@section Scripts” block to benefit from the included optimisations where possible.

These changes were included in commit [1ce7009](#).

## Multiple Master Layouts and Partial Views

In addition to the above-mentioned issues, there were multiple default layout files, and multiple partial views included in the project. A link to the main CSS file had been manually copied and pasted most views, but not all, and wasn't included in the default layout file where it should have been. Some of these master layouts included different versions of Bootstrap, jQuery, jQuery UI etc.



*The index page with styling eventually entirely removed*

In order to resolve this I removed styling directives one by one from the index view, until the page reverted to plain HTML. This allowed me to then check that all the views were using the same layout file, and that the partial views weren't including duplicate or different versions of JS or CSS files. Once I had found all of the styling related includes, it was easy to include the CSS for Bootstrap, jQuery UI and my own styling of the application, as well as the related JS files.

These changes were included mostly in the previous commit, and finalised in [d103305](#).

## Result

The final result looks similar to the original website, but is now consistently using the same manageable style, and also includes the Piggy Bank Glyph. Manual testing of this bug resolution by other group members was reported to have passed. See the final live version which includes these fixes at <http://texchange.xyz>.