Responsive Redesign

Josiah (https://josiah.brown.edu) is Brown University's library catalog – a one-stop shop for every resource a Brown student may need. Users can search through Brown's entire collection through the Quick Search feature. There are also advanced search options for filtering by author, title, format, collection, and more. Josiah also offers support for Brown University courses, and it can point students towards resources available beyond Brown's campus.

Josiah is a vital resource for any Brown student writing a research paper; however, its interface is in desperate need of a redesign. It is not responsive to different screen sizes, and its desktop version doesn't even utilize the entire browser window. There are problems with usability and visual design as well. It is difficult to distinguish the dominant elements of the interface, since it seems to mostly consist of homogenous links and search bars. This makes the interface difficult to navigate, especially for first-time users.

The Brown University Library has recently redesigned their library catalog (https://search.library.brown.edu). However, it is still worthwhile to redesign Classic Josiah to improve its usability, visual design, and responsiveness.
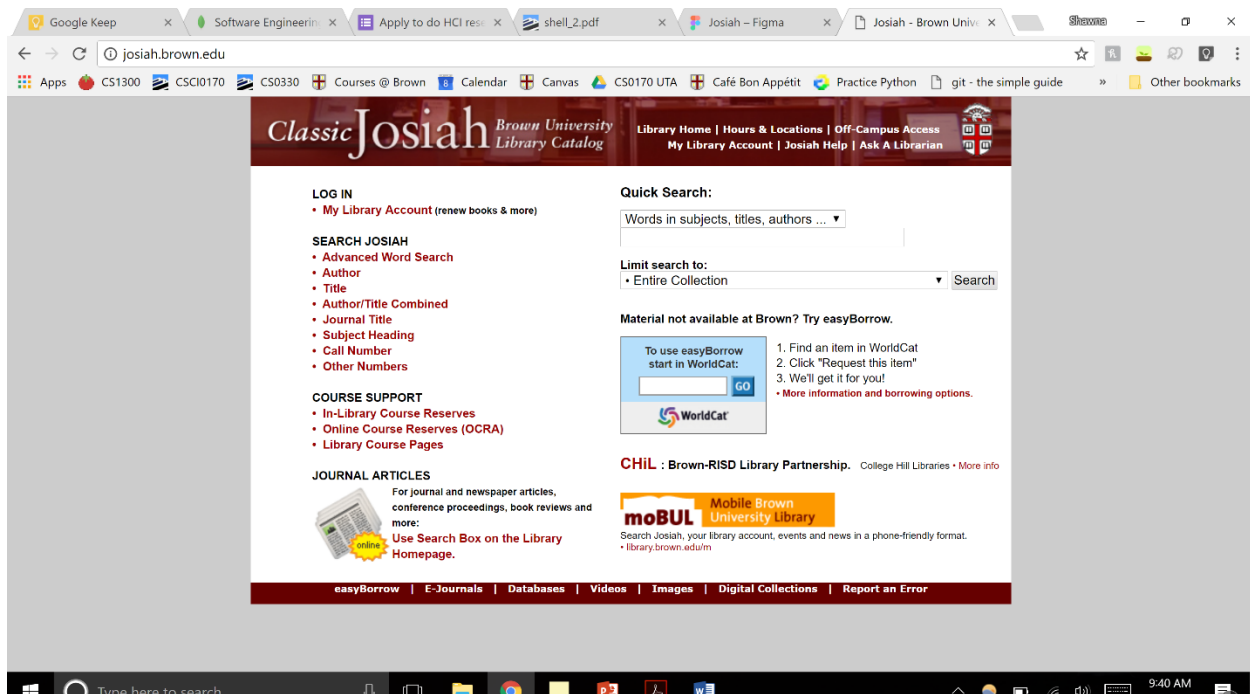

Figure 1: Classic Josiah's Current Interface

Usability Redesign

The first step in redesigning Josiah's interface is improving usability. I assessed the current interface on six major usability criteria – intuitive design, ease of learning, efficiency of use, memorability, error frequency and severity, and subjective satisfaction. I then tried to improve each of these usability principles in a redesign of five key screens. Below are my five redesigned screens as wireframes, created using Balsamiq, as well as a diagram showing the navigation flow between the five screens.
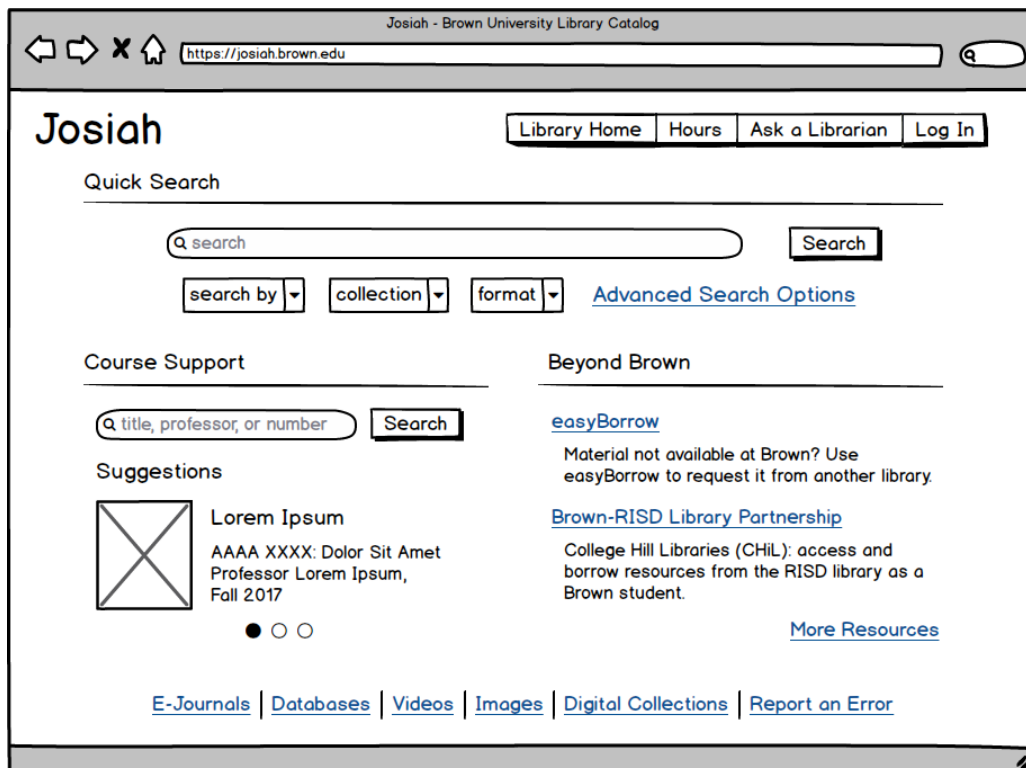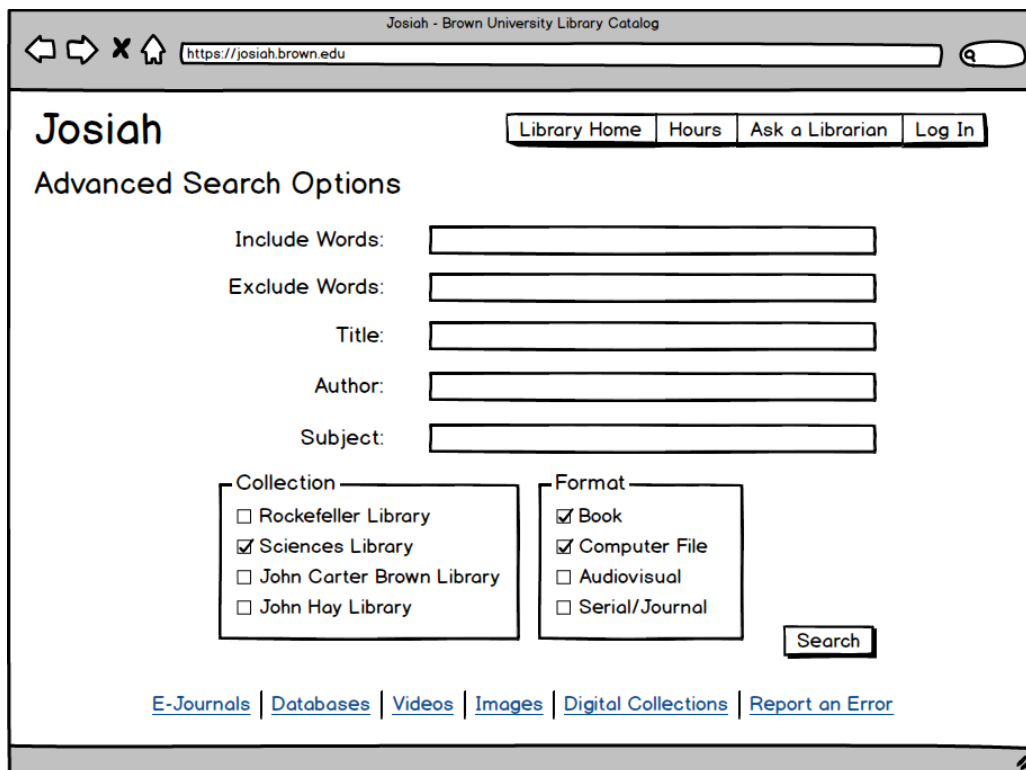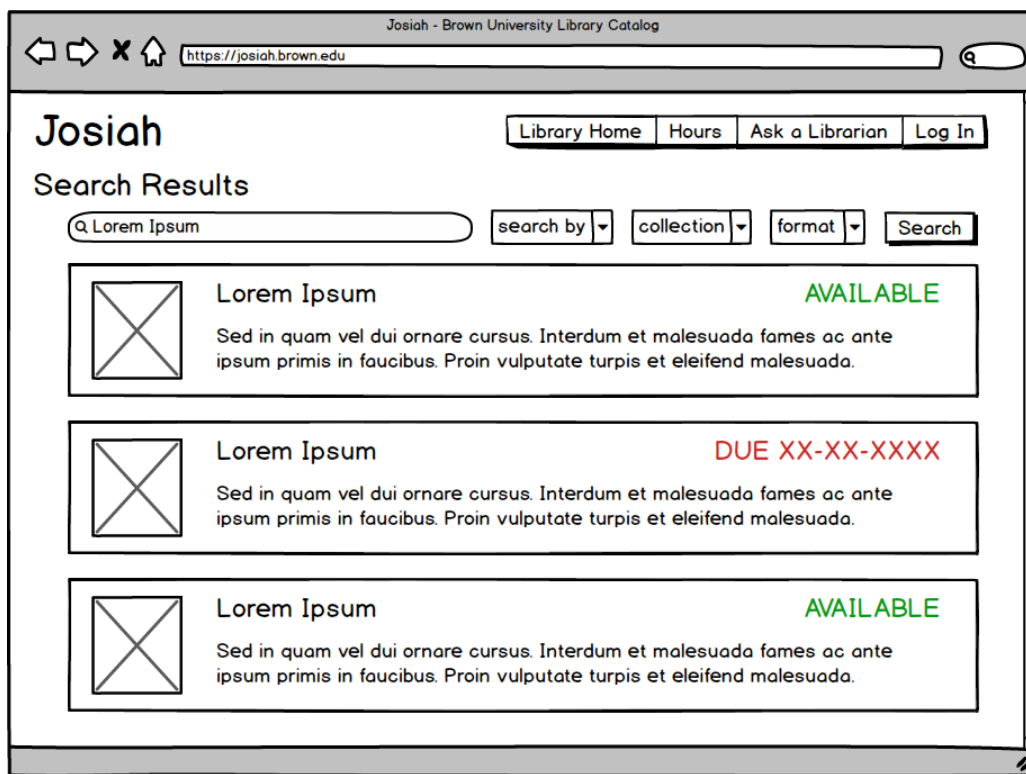

Figure 2: Redesigned Home Page

Figure 3: Redesigned Advanced Search Page
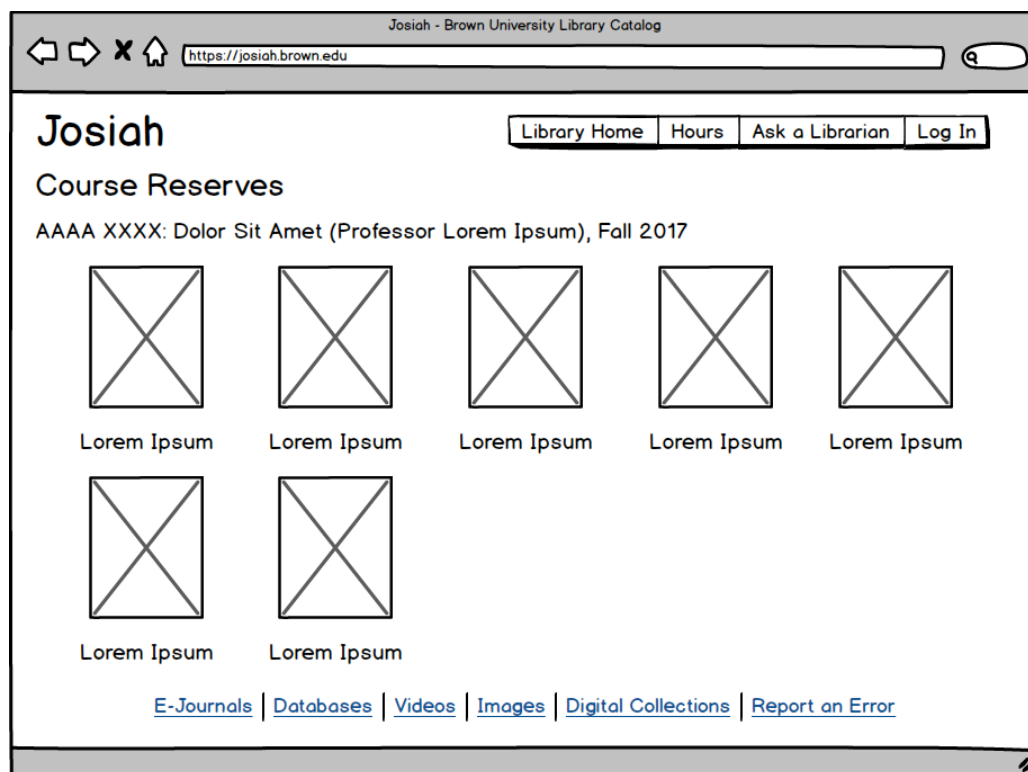

Figure 4: Redesigned Search Results Page

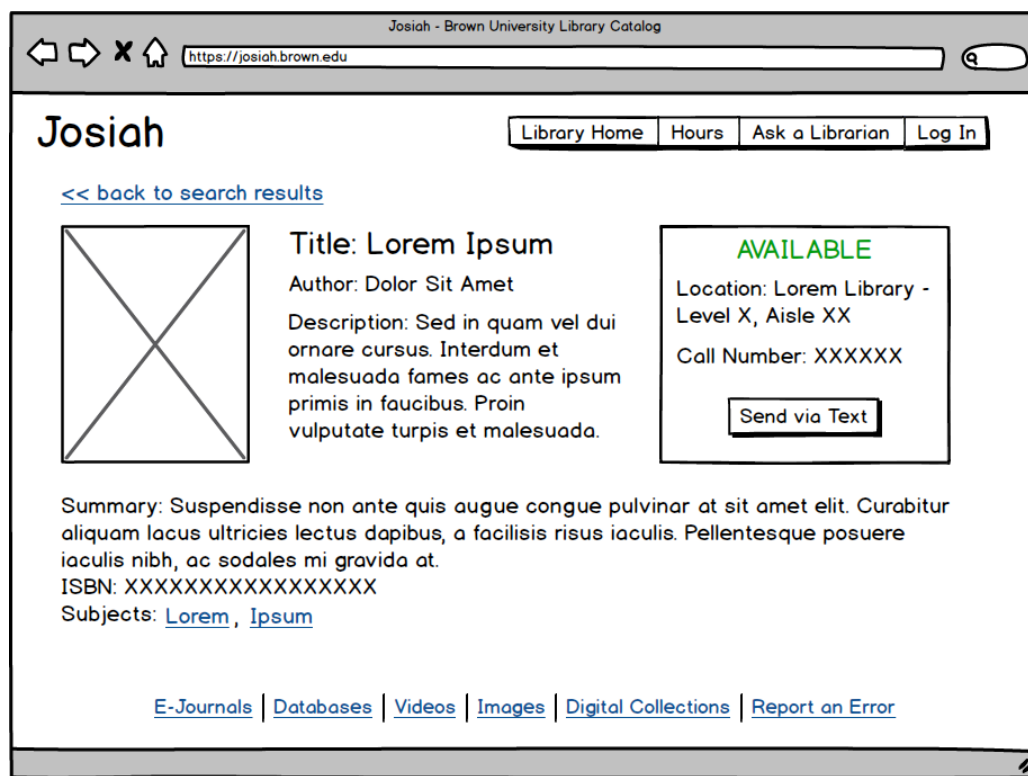Figure 5: Redesigned Course Reserves Page
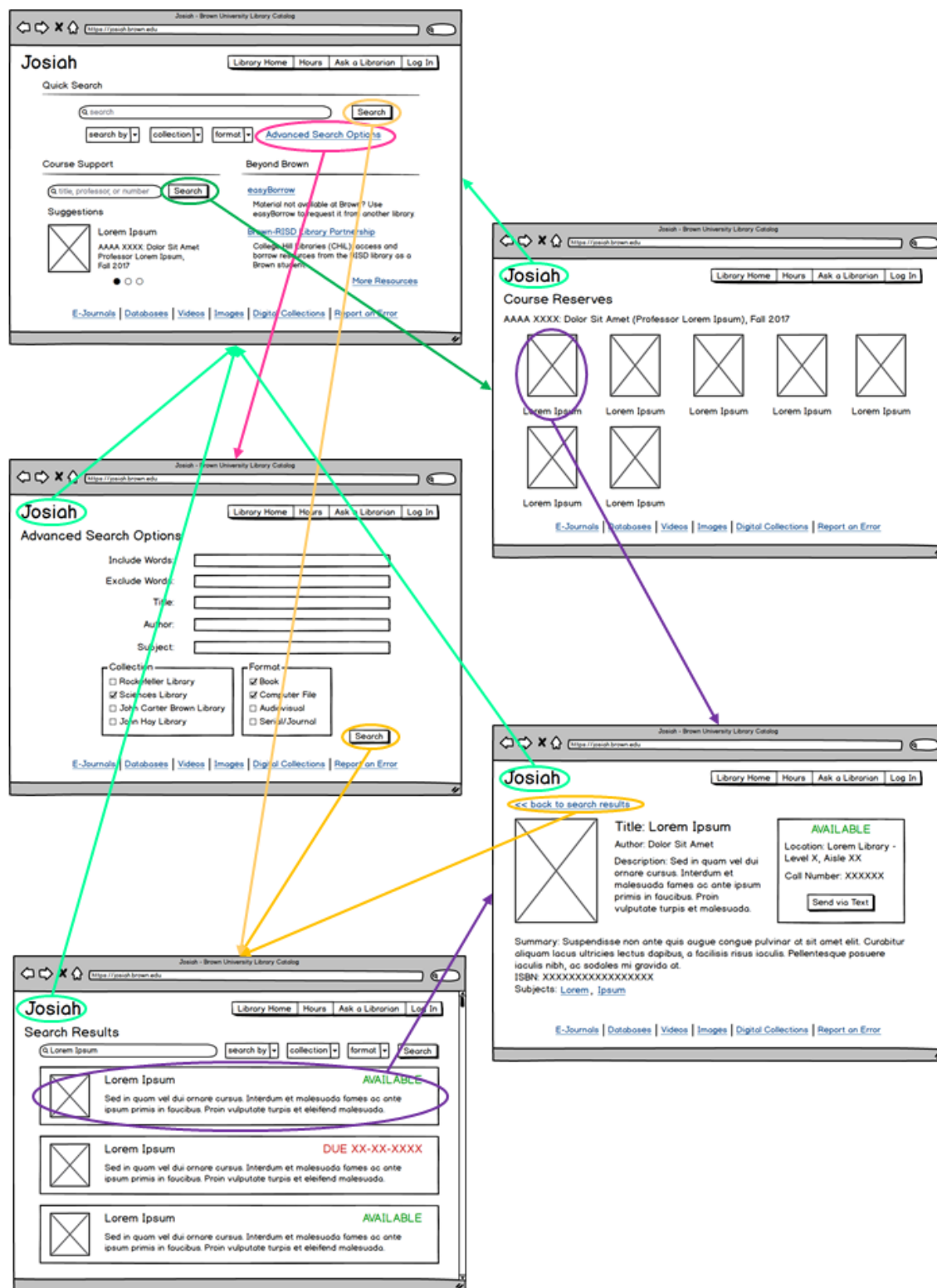

Figure 6: Redesigned Book Information Page

Figure 7: Navigation Flow between Wireframes

Below is a table documenting the assessment of the six usability criteria on both the old interface and my redesigns.

	Original Interface	Redesigned Interface
Intuitive Design	The design of the original interface is not very intuitive. It's difficult to understand how the Quick Search feature interacts with the many advanced search options. It's also unclear how the Course Support features work, as well as how Course Support integrates with Quick Search.	The redesigned interface is much more intuitive. It is clear that the three main features – Quick Search, Course Support, and Beyond Brown – are separate. Additionally, since all the advanced search options have been moved to a separate page, there is no longer any confusion in how the search options integrate with the quick search feature.
Ease of Learning	On first glance, the current interface is overwhelming. Users may struggle to find the search bar, Course Support, or other features they may need. It is difficult to determine which elements are the most important. This ultimately makes the current Josiah interface difficult to learn.	Users' eyes are first drawn to the Quick Search category, which is very clearly the main element on the page. This is likely what most first-time users will be looking for. This makes it much simpler for users to find the features they need and complete their task. Additionally, the home page is much less cluttered than before and easier to learn quickly.
Efficiency of Use	An experienced user might find the interface inefficient. Even if they know how to navigate to the resource they are looking for, all the links are very close together and look very similar. It will likely be difficult for this user to find and select the proper link without any mistakes, which will slow them down significantly.	It is much easier for an experienced user to find the features they need here. The user will know immediately to go to Quick Search or Course Support, and the user knows exactly where to find these categories, since they are right on the front page.
Memorability	If a user has used Josiah before, they will likely remember what links/pages to navigate to in order to find the resource that	It is easy to remember the general format of the new interface, since there are three distinctive categories on the

	they need. However, because all the links look very similar and are very close together, it may be hard for a user to remember which link they should click to find what they need.	main page. It is easy to remember where each of these is placed, as well as the purpose of each. Users can easily remember how to navigate from the main page to the resources they need.
Error Frequency and Severity	The links are positioned close together, which likely causes users to frequently select the wrong option. However, these errors are not very serious; users can easily recover by returning to the home page and selecting the correct link.	The options are deliberately separated, including an entire separate page for advanced search options. Mistakes will occur less frequently, as users are less likely to select the wrong link or button by accident when there are fewer links and buttons on the page. The errors are still not very serious and are easy to recover from, just as before.
Subjective Satisfaction	My subjective satisfaction as a user of the classic Josiah interface is low. I don't like that the interface doesn't use the whole browser window, which makes the text small and hard to read. It's also hard to quickly find the key features that I need regularly, such as the Course Support section. These features are not easily distinguishable from the less important content on the page.	While this is difficult to judge as a designer, I think the subjective satisfaction of this interface is much higher. The interface takes up the whole browser window, which is more visually appealing and makes the text easier to read. The page is also less cluttered with content, and it is much easier to find key features like the search bar and course support.

Table 1: Six Usability Criteria on Old Interface and Redesigned Interface

Visual Redesign

The next step in the redesign process is a visual redesign. I chose a color palette similar to that of the current Josiah interface – red, with accents of cream. I thought this would provide a visually appealing design without being flashy, as well as follow the Brown University color scheme to some extent (brown, red, and white).

I chose a serif font (Playfair Display) for the Josiah logo, both to emulate the current logo and to provide connotations of academia and scholarship – important for a library catalog. I used a sans serif font (Roboto) for the rest of the text to provide a sense of consistency, readability, and modernity.

The layout of this design uses a 4x2 grid, with every section taking up one row and two columns except the Course Support and Beyond Brown sections (one column each). This grid layout draws the user's eye to the sections which take up full rows – in particular, the Quick Search section, which is the most important feature.

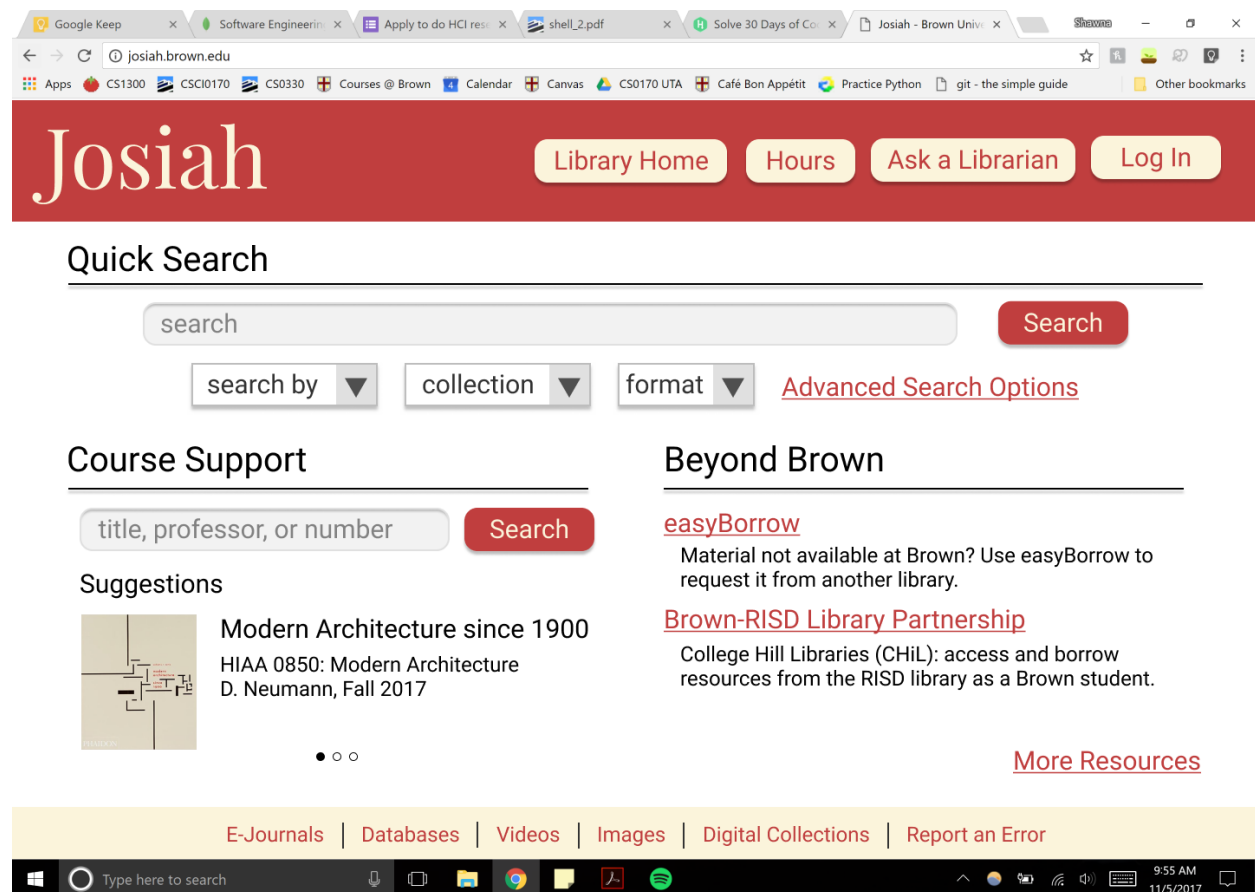Below is the high-fidelity interface of the home screen, created using Figma.

Figure 8: High-Fidelity Mockup of the Redesigned Josiah Interface

Responsive Redesign

The last piece of the redesign process it to make the interface responsive. Below is an annotated mockup of how the elements on the redesigned interface should change as the screen size changes.
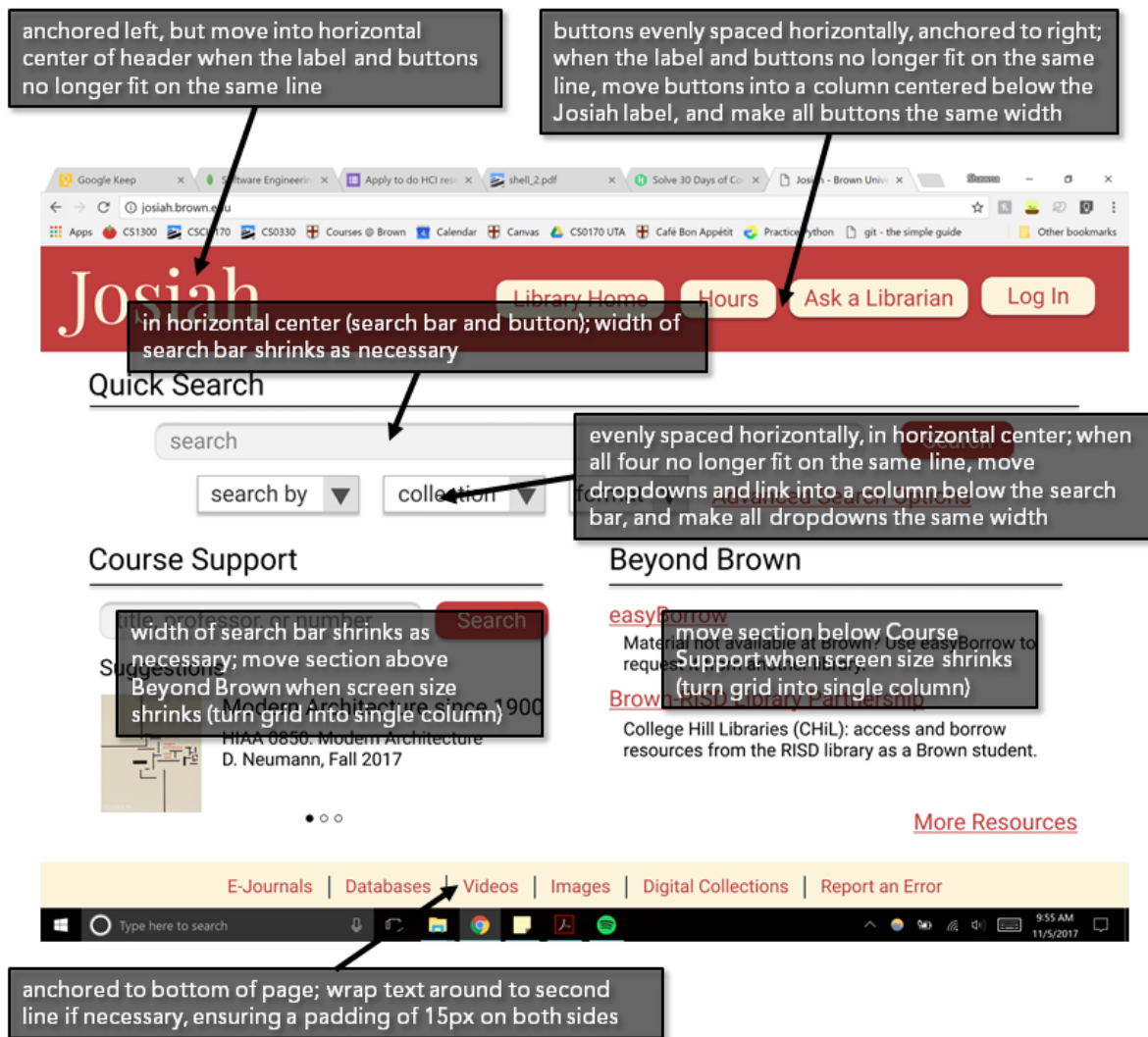
Annotations on mockup:

- anchored left, but move into horizontal center of header when the label and buttons no longer fit on the same line
- buttons evenly spaced horizontally, anchored to right; when the label and buttons no longer fit on the same line, move buttons into a column centered below the Josiah label, and make all buttons the same width
- in horizontal center (search bar and button); width of search bar shrinks as necessary
- evenly spaced horizontally, in horizontal center; when all four no longer fit on the same line, move dropdowns and link into a column below the search bar, and make all dropdowns the same width
- width of search bar shrinks as necessary; move section above Beyond Brown when screen size shrinks (turn grid into single column)
- move section below Course Support when screen size shrinks (turn grid into single column)
- anchored to bottom of page; wrap text around to second line if necessary, ensuring a padding of 15px on both sides

Figure 9: Annotated Mockup

When the screen size shrinks below 800px, the design switches to a "mobile" layout. Rather than taking advantage of the width of the desktop screen to have multiple columns, the interface switches to a single-column design.

In the header, the Josiah label moves to the horizontal center, and the buttons stack in a single column beneath the label (as they can no longer comfortably fit on one row). The button widths are made uniform to create a uniform column.

In the Quick Search section, the search bar and button remain on the same line; the search bar shrinks as necessary to ensure they both fit on that line. Much like the buttons above, the dropdowns and link stack in a single column beneath the search bar. The widths of the dropdowns are made uniform to create a uniform column.

The content within the Course Support and Beyond Brown sections remain in the same positions (i.e. anchored left, right, or center within the section). However, the

Course Support section moves above the Beyond Brown section to create a single column. This ensures that both sections are wide enough to be readable and usable, and it adds to the single column/scrolling design of the mobile layout.

The footer remains anchored to the bottom of the page. The text (which is horizontally centered within the footer) wraps around to a second line when necessary, ensuring a 15px padding on both sides so that the text isn't right up against the edge of the screen.

The redesigned interface, complete with responsiveness, can be found in the attached files, or at https://shawnaness.github.io/responsive-redesign.