5. Select Graph Axis Definer as HOUR.

# Findings and Recommendations

## Findings

The initial prototype had a number of successes in the way of displaying and visualizing data analytics. Most notably, the user enjoyed the simple aesthetics of the entire application and the power of graphing student trends over time. Below is a table detailing notable successes during our evaluation.

Table 1: Successes of Prototype

| Success | Screen | Description |
|---|---|---|
| Day - Date Differentiation | Company Analytics | The user was easily able to differentiate the difference between day and date (i.e. Monday vs. 06/04/2018) |
| Filtering | Company Search | The user differentiated which filter was currently in use and how to change the ordering of the list. |
| Calendar Aesthetics | Calendar | Thoroughly enjoyed the simplicity of the calendar. Not too much information to overload the user with information. |
| Company Tags | Company Analytics | The user enjoyed seeing companies tagged with their most common associations in order to make remembering obscure company easier. |
| Company Type | Company Search | The user enjoyed being able to filter companies based on their type, so for example, you could view only hardware companies. |
| Graph Flexibility | Company Analytics and General Analytics | The user liked the flexibility of the drill-down criteria selection - mainly the enabling of any set of criteria and having that criteria be visible and close to the graph. |

However, there were a number of problems with our prototype. These problems are listed in the table below. All problems sprung from 3 main UI components: navigation, general

aesthetics, and an incoherence between the users expected result and the actual result from the application.

Table 2: Problems with Prototype

| Problem | Urgency | Problem Type | Screen | Description | Heuristic Violated* |
|---|---|---|---|---|---|
| Home Button | Minor | Navigation | All screens | There is no “back to home” button. This makes it difficult for users to easily transition between the major components of the application. | User freedom/ recognition over recall |
| KPI (Key Problem Indicator) Spacing | Minor | Aesthetics | Company Analytics | The 3 KPI’s describing consistent values for a company (# Visits, Next Visit, # Students) are spaced far apart, forcing the user to look further for a small piece of information. Also increases likelihood user ignores the KPI. | Users visual recognition of groupings |
| List Ordering | Minor | Result vs Expectation | Company Search | The user expected a chevron pointing upwards implied a descending ordering, rather than ascending. | Recognition vs. Recall |
| List Coloring | Minor | Aesthetic | Company Search | Highlight the whole column being sorted to enable users to differentiate the sorted column values from other columns. | Visibility of system status |
| Calendar Navigation | Serious | Navigation | Calendar | Allow the user to navigate the calendar by year, not | User freedom and control |

| | | | | | |
|---|---|---|---|---|---|
| | | | | just month. | |
| General Analytics | Major | Result vs. Expectation | Home | The user was unsure of what General Analytics entailed and expected information about companies to be there rather than global analytics for Day in the Lobby. | Match between system and real world/ consistency and standards |

*All heuristics violated are taken from the Jakob Neilsen 10 heuristics for user interfaces (Nielsen, 1995).

# Recommendations

All recommendations are pulled directly from the comments made by Kristi Walker. The compiled notes from the prototype walkthrough can be found in (Appendix A).

### Home Button:

There is no “back to home” button. This makes it difficult for users to easily transition between the major components of the application. The test subjects struggled to easily transition back to the main page to the various components of this application. This issue can be solved easily by adding some sort of navigation option to every page, which can be used by the users to transition to other pages more easily than by solely relying on the back button.

We would recommend adding a navigation bar to the top of all pages of the application with matching UI. This UI could have a home button as well as buttons to other components, so as to save the user some time. Along with giving the user more freedom in navigation, it would allow the user to recognize the different options they have for navigation rather than recalling which page they were previously on. The addition of the navigation bar including the home button fixes bugs in our interface relating to the Nielsen 10 heuristics of user freedom and recognition over recall (Nielsen, 1995).

### KPI (Key Performance Indicator) Spacing:

The 3 KPI’s describing consistent values for a company (# Visits, Next Visit, # Students) are spaced far apart, forcing the user to look further for a small piece of information. Also increases likelihood user ignores the KPI. This is an un-intuitive design that forces the user to scourge the page in search of information. The 3 indicators are placed in such a way that they occupy a lot of room, but this creates an unpleasant experience for the user.

We would recommend placing the KPI’s closer together in a format that allows the user to easily see all three of the them right next to each other. They could be placed in a table format in a vertical manner such that they can be easily compared one with the other. This allows the user’s eyes to stay put while the brain analyzes and interprets the numbers.

### List Ordering:

The user expected a chevron pointing upwards implied a descending ordering, rather than ascending.

We would recommend leaving the chevron as is. After some research, it turns out that this is a common issue across websites, where users need to fiddle with the chevron before coming to terms with their meanings. Although our test subject was confused, it did not take long before he/she was able to find out what the chevron actually did. And the research also claims that our implementation is the predominant one right now, so more people would expect it the current way.

### List Coloring:

With the present prototype, the test subjects are not able to easily determine which column is being sorted by looking at the table. Although the column heads are being highlighted, the rest of the column is not, causing the user some confusion.

We recommend highlighting the whole column being sorted to enable users to differentiate the sorted column values from other columns. It would be more clear what the sorting category is, as well as make the webpage more eye-catching for the user.

### Calendar Navigation:

The test subject(s) had some trouble figuring out how to work the calendar. She asked how she should change to a different year to see that year's events. We realized that functionality did not exist. Although it is perfectly valid for a user to want to check out events that occurred more than a year ago, our current methods of navigation only allow the user to navigate by months/years.

We recommend allowing the user to navigate the calendar by year, not just month. This would grant the user more control with calendar navigation, and allow them to access historical data.

### General Analytics:

The user was unsure of what General Analytics entailed and somewhat expected information about companies to be there rather than global analytics for Day in the Lobby. This was not all too surprising, given the vagueness of the component title. This vagueness might mean that users explore this section even though they might not actually need to access it.

To resolve this issue, we recommend renaming the section to "Global Analytics". This entails that the section is referring to no specific firm, but the data is "global". It is in reference to Day in the Lobby as a whole,  and the name global alludes to the lack of ties to any specific brand.