

DESIGN PROCESS: REDESIGNING THE 2014 [REDACTED] CONFERENCE APP FOR 2015

Preface: The 2014 [REDACTED] Conference application is no longer available in the App Store.

The 2015 [REDACTED] Conference App is also no longer available. For further project information, feel free to email contact@9magnets.com.

Measurable Design Improvements for 2015 Redesign:

- **33%** user growth over 2014 app
 - **46%** growth in number of total sessions over 2014 app
 - **62%** growth in number of total screen views over 2014 app
 - **11%** growth in number of screens viewed per session over 2014 app
 - *NOTE - We would expect this number to be lower than others, as the 2015 app removed individual views for each conference schedule event (the conference featured roughly 400 sessions), and instead moved to a model where full conference schedules were only visible on a day by day basis, with a single view for the entire day's schedule. This greatly reduced the number of potential screen views in this year's apps, as individual schedule event views accounted for ~20% of total screen views inside of the app. Adjusting for this change, we saw a 33% growth in screens viewed per user session, when not counting the full schedule pages.*
 - **43%** growth in the average duration of time spent per session inside of the app, over the 2014 app
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Objective:

Improve [REDACTED] Conference application 2014 design for 2015. Research and design an adaptive interface structure that will allow us to add and remove major sections of the application quickly and a short turn around (less than ~10–15 minutes), through use of a web server. All data and features to be compatible across iPhone and Android. The 2014 conference application interface had been previously designed by our client, and was handed off directly to us for programming only. We were tasked with improving design in 2015, and below is some information on the steps we took to accomplish this.

Process:

On Site Feedback: Well in anticipation of this process, we worked with our client during the duration of the 2014 project to have a team member on site during the conference. This served two purposes that helped improve the product for 2015. First, we were able to provide technical support to attendees as necessary, and ensure that other technical project deliverables worked as expected on-site. We were able to lend a hand in several other technical deliverables outside of the app, and an on-site technician from our team was valuable reassurance to the client.

Second, it allowed us to directly interact with end users at the conference during the technical support sessions in order to understand their pain points with the 2014 mobile version, and learn more about how the application was being used in practice.

This led to many important discoveries, including but not limited to:

- Certain parts of the app that were deemed by our client to be unimportant (such as explicit detail on location of bathrooms or phone charging stations) were found to be key for end user happiness, and were too far hidden away in a deep hamburger menu structure.
- Users loved taking photos of themselves at the conference and then sharing these photos with their friends.
- Internet access in the conference center was exceptionally poor. The application could be improved through changes where it would be less reliant on any Internet connectivity.

Client Review and Planning: After gathering information at the conference, we reconvened with our client and worked to set a strategy for how to best improve app experience. The plan was the following:

- The app team would work to allow greater flexibility technically within the app, allowing for more content to be more dynamic, allowing us to change and update content on site even if necessary, while still delivering strong native software for iOS and Android.
- As there typically is no way to interact with end users outside of the annual conference, at which point would be too late for user testing, we would instead bring in a larger number of internal client stakeholders for testing and feedback throughout the process.
- We would plan delivery for the app earlier than in 2014, giving more time for design adjustment and refinement if necessary leading up to the conference.

Research: Our first research decision was to dive into 2014 conference data and learn deep insights into just how people used the application. We had used Google Analytics mobile SDK in order to track which features, functions, and views were most commonly used throughout the app. It also allowed us to see which pages were most likely to be viewed for a long period of time vs. a short period of time, which pages were often the first page viewed once the user opened the app, which pages were most commonly returned to by frequent users, etc. This helped empirically confirm what attendees were telling us in person, in that we needed to make it easier to access “secondary data”, such as restroom location, etc. It also helped us relay much of this information over to the client, who could in response craft content messaging, notification schedules, etc., to help best inform the user as to what we had seen were topics that conference attendees often wanted more details on.

From here, my goal as a designer was to begin to take the technical considerations into thought, and present potential designs that fit all project goals. The application must adapt well and be usable for all iOS devices, regardless of size, and for all Android devices running 4.0+. And the application must be significantly flexible, working well no matter how much, or how little content the client inevitably decided was necessary to be included inside of the application. The content delivery dates would not be hit until after nearly the entire app had been developed, and much too late to adjust if content was not delivered as planned.

Dillon and myself looked at several dozen different applications across many genres that solved similar needs. Through looking at many designs, several key interactions began sticking out in our mind. First, the iOS tab bar would become essential, allowing for single-handed use to easily flip between primary content

categories on all device size classes. On Android, the menu slider as is prominent in Gmail and Hangouts allow flexibility and easy integration with system standard gestures.

With our respective menu systems determined, we went forward with the decision on how to handle content management. On Android, with essentially a limitless length menu system, we are able to provide a reasonable menu hierarchy where the user can browse a list of primary topics, and then dive into a subsequent table view with 2–3 items, then tap forward, or use a system standard back button in order to return to the previous menu. On iOS, we are not afforded this luxury, and had to figure out how to place what inevitably became 40+ content pages across 12 categories, all on only 4 tabs. We began looking for interaction methods that allowed us to stack content in adjustable view rows.

Implementation: In our final implementation, we went with both vertically and horizontally sliding tables. Content categories flow down vertically through the view, and subitems for each category are represented by icons that could scroll horizontally. This allowed for essentially endless content. We began prototyping and found that the interface remained responsive and easily navigable on a variety of iOS devices, from iPhone 4S to 6+, with additional strong support for iPad. In presenting this to the client, the design was received favorably, as it would be able to easily make accessible much more content without the need to dive deep into multiple levels of navigation hierarchy. This navigation structure allowed us to give prime real estate to essential conference content like speaker biographies and session details, while also making it quick and simple to access the secondary content that conference attendees stressed they needed while we were on site. In initial testing with our prototype, key client stakeholders were happy with the design and we moved forward to fully implementing the design. We then finally formalized graphic and text deliverables, so that the client's content team could get to work on conference branding and data.

From a technical standpoint, while working on updating the iOS and Android code bases to support these features, we also overhauled our web server structure to better support these new app designs. A new release to our Django driven CMS allowed us to update content icons, titles, and content types all over the web server. Our new CMS allowed our client to add conference speakers, session information, HTML formatted pages, urls, images, or PDFs as content pages within the app dynamically.

Iteration: As with any project, we worked rapidly in code. We had basic design comps produced in Sketch, but due to the highly dynamic and adaptive nature of the content, we instead did much of our design work directly in Interface Builder using Xcode and in Android Studio. Once our web server was updated, we quickly used the 2014 conference content as a temporary placeholder, along with an assortment of different potential edge case content examples. This allowed us to rapidly deploy test builds across a multitude of internal test devices, test content, and modify our designs directly in code as issues arose. Using Hockeyapp, we then deployed updated builds to the client typically 2–3 times a week. This offered a fresh set of eyes on the design for feedback, a further level of testing, and also allowed for the content team to gain a better expectation of how the work they were producing would appear in app.

Final Product

Overall, the application was a measurable success. When on site during the 2015 conference, our number of support instances decreased significantly and our hands-on discussion with attendees indicated a higher level of user satisfaction. Our Google Analytics metrics, as noted at the top of this document show significant increased greatly year over year. Our proudest metric of success was the increase in screens viewed per session, and our 43% increase in average use duration per session. We see these as significant validations that our interaction changes lead to a better mobile app.