

# momentous

saving the day

**Catherine D**  
Design

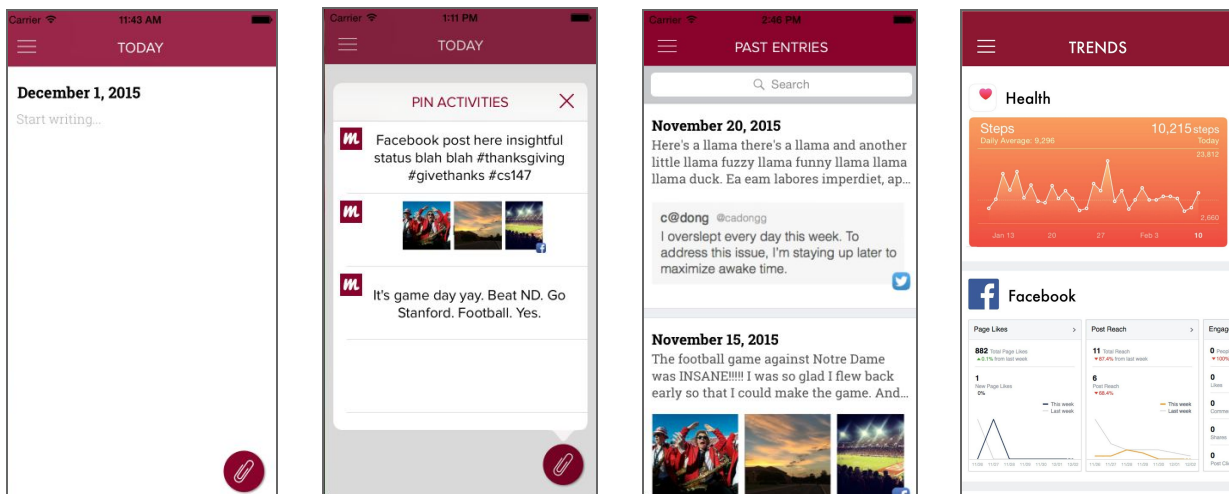
**David E**  
Development

**Levi J**  
User Testing

**Pavitra R**  
Development

## Problem Solution & Overview

People love to reflect on their memories but have trouble creating and organizing content that accurately captures their daily lives through pure text entries. *momentous* enables you to easily save and write about your day by automatically documenting your digital footprint. It aggregates many different types of content including photos, videos, audio, and location data to create a multi-sensory journaling experience. It also shows entries from the past to rekindle memories and highlight personal growth.



## Tasks & Final Interface Scenarios

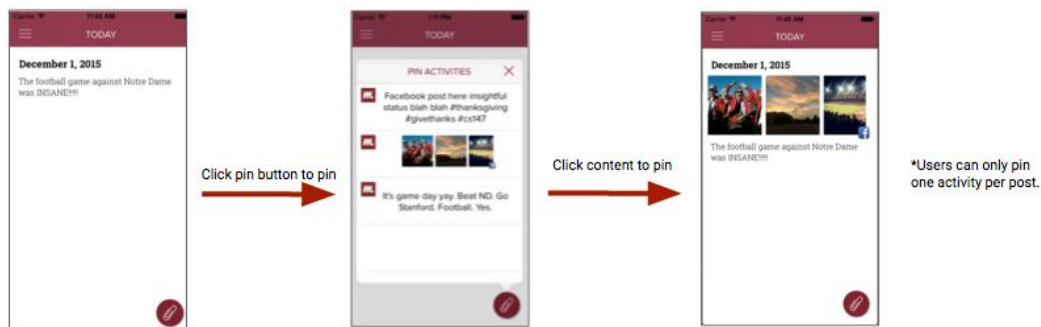
The tasks we want to complete range from simple to complex in order to meet diverse user needs. They are as follows:

1. Begin an entry by writing on a blank canvas.
2. Pin an activity to the current entry.
3. Look back at trends and old entries.

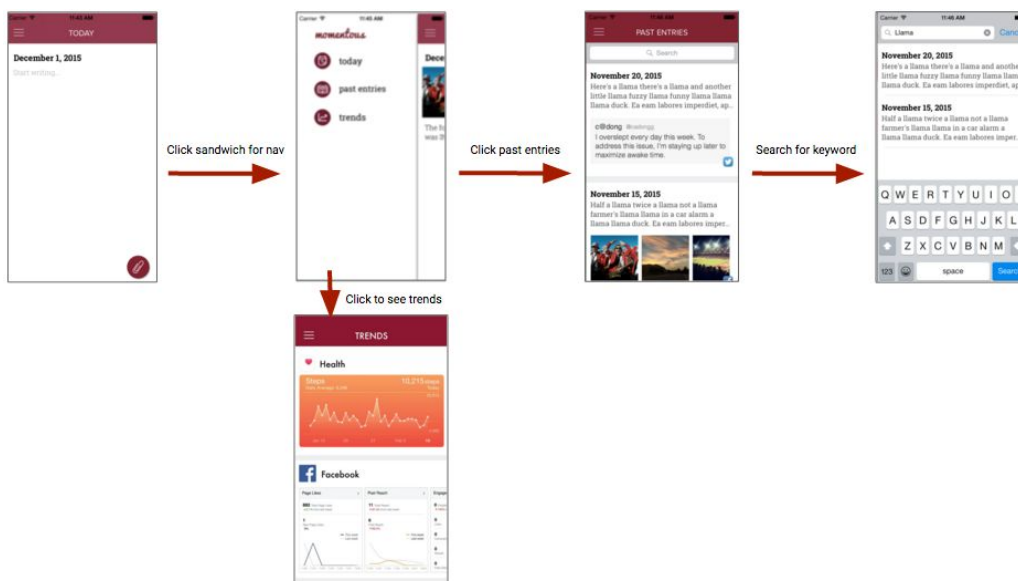
The first task, “begin an entry by writing on a blank canvas”, is the simplest and most familiar way for people to record their days. It is most in line with the journaling that people do currently with pencil and paper making it the application’s most intuitive function.



The second task, “pin an activity to an entry,” is a core feature for our application. It makes the process of generating content painless by giving users a focused starting point for the entry. It provides another medium through which one records the meaning of the day.

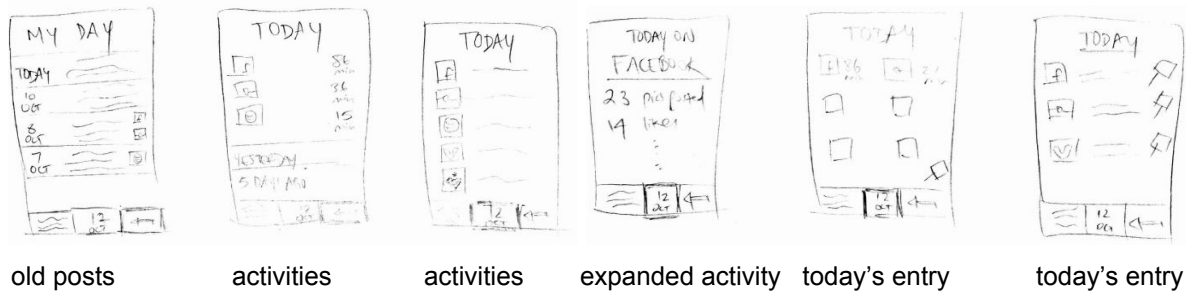


The third task, “look at trends and old entries,” is much more than meets the eye. This is where the app earns its stripes. Users can reminisce with old posts (which are all easily accessible through search) and discover new insights with the trends page.

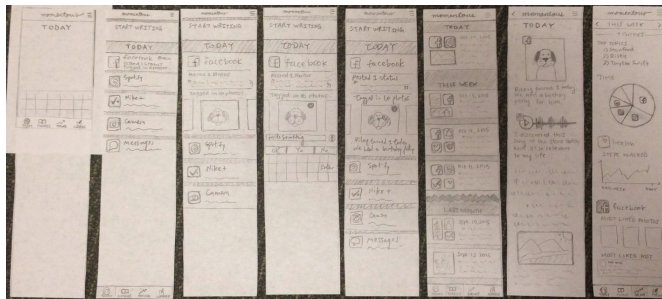


## Design Evolution

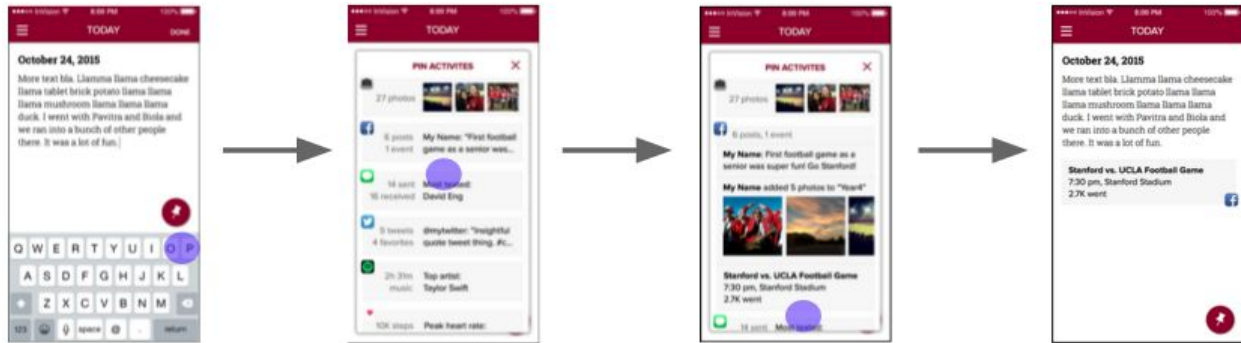
At the concept sketches stage, we chose the “tab view,” because of its organization and intuitiveness as a design. Navigation is simple and apparent at the bottom of the screen. Pinning activities was easy because they were all listed immediately under the space for writing. The other possible sketches were a spatial view that had all entries floating around in a common space. We decided against this one because it would be less effective on a small phone screen. The third possibility was a feed view which we essentially incorporated into the tab view lo-fi prototype in the way we showed activities to pin. The tab view is shown below.



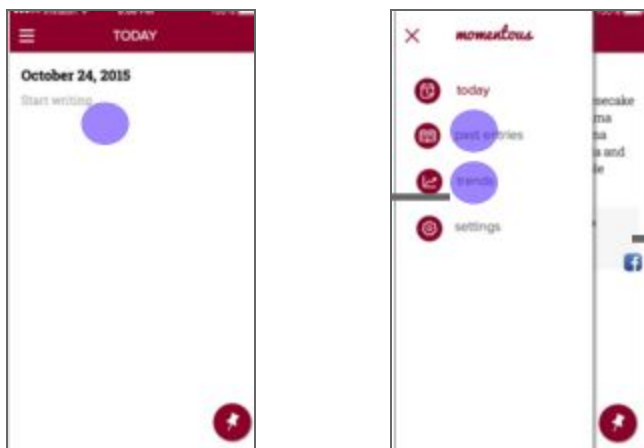
We refined the drawings into what ultimately served as our low-fidelity prototype. We wanted every screen to be scrollable to give users the sense of the journal being a world. If someone wants to quickly jot down part of an entry, it would be readily available to make a pin and do so without needing to click too many times to get there.



We had several users test the low-fi prototype and they led us to some major usability issues. The first was the conceptual model for pinning activities. Users thought that when they clicked on another app to pin information that they were being taken to that app rather than seeing the information from it while still using *momentous*. We fixed this by creating a pop-up to hold the information from other apps. Visually, it overlays the canvas of the current entry being edited. This would make users feel like they were still working within *momentous*. Users would call the pop-up with a “pin” button that we introduced in the lower right corner of the screen.



The other major change we made was for ease of use with regards to screen real estate. The first screen we came to in the low-fi prototype was cluttered and overwhelming. Some test subjects missed the call to action, “*start writing,*” completely even though we wanted the design to support to what people wanted to accomplish with the application. With that in mind, we removed the tabs at the bottom of the screen as well as the fixed list of activities to pin. We collapsed the tabs into a sandwich menu at the top left of the screen and we made the activities list a pop-up (which fixed the other conceptual model issue mentioned above). This made room for the entry to be seen and appreciated. Aside from that, this design decision also had the added benefit of making the user experience revolve even more around the task of creating a new entry. Switching between tasks is made slightly slower but that switching is not a task that will be used as much as recording new entries.



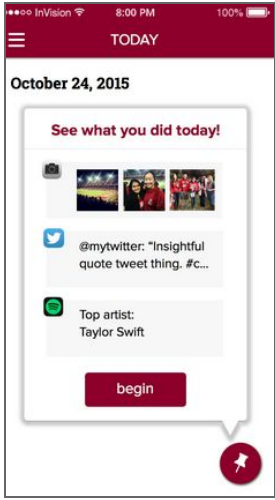

## Major Usability Problems Addressed

We performed a thorough analysis of our heuristic evaluation results in order to determine core changes we wanted to make in our high fidelity prototype. The following are level 3 or 4 heuristic violations that our evaluators found, and our associated analyses and description of fix for each violation.

**Violation:** The user cannot return to the initial landing page, which may detract from the user experience.

**Fix:** In our medium fidelity prototype, we had a screen which we intended to be a type of “tutorial” that only showed up the first time you opened the app, in order to give users a taste of the pin activity capability of our app. However, we realized that several evaluators found this confusing and thus misunderstood this tutorial as the “landing page” and tried to return to it. We decided to remove the tutorial to reduce confusion, so the first screen is the blank canvas call to action which allows users to write; this change also more intuitively conveys the feeling that today’s entry is the user’s “home page.”

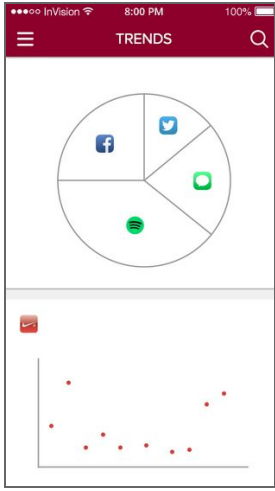

**Table 1**

Med-fi	Hi-fi
	
<p>Tutorial pop-up misinterpreted as a home page</p>	<p>Uncluttered entry for ‘today’ that will always serve as a home page</p>

**Violation:** The content on the “Trends” page is not labeled. It is unclear for the user which metrics are being conveyed in the graphics.

**Fix:** When creating our medium fidelity prototype, we viewed the past entries page as the main means of reflecting on the past and evoking feelings of nostalgia, viewing trends as more of an additional accessory feature to flesh out later. However, after our heuristic evaluation and subsequent user testing revealed that users would use the trends feature, we spent more time fleshing out the design. The graphs are all labeled to show which metrics are being conveyed from which apps.

**Table 2**

Med-fi	Hi-fi
 <p>The Med-fi Trends page features a circular dashboard with icons for Facebook, Twitter, and a green chat bubble. Below the dashboard is a line graph with red data points on a white background.</p>	 <p>The Hi-fi Trends page displays a 'Health' section with a line graph showing 'Steps' (Daily Average: 8,296, Today: 10,215) and a 'Facebook' section with 'Page Likes' (882) and 'Post Reach' (11) metrics, each accompanied by a small line graph.</p>
<p>Essentially worthless trends page with no actual information</p>	<p>Fully realized trends page with labels and no search feature</p>

**Violation:** It is unclear whether the search button on the “Trends” page is intended to be functional; it seems like having this functionality on the “Trends” page would be unnecessary.

**Fix:** Our medium fidelity prototype had a “search” on the “Trends” page, which was indeed unnecessary. It makes sense to search past entries because there are likely multiple past entries and the user may be trying to search for a particular keyword or date. However, it makes more sense for the user to simply scroll through the trends page to view insights.

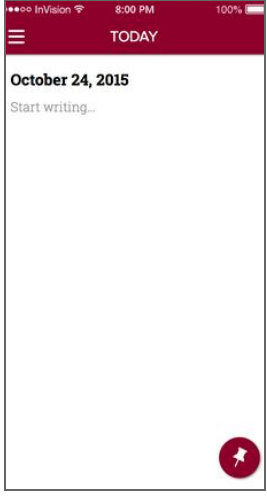

*[refer to Table 2]*

**Violation:** Pin button on landing page does not necessarily align with purpose of the page; a plus (adding) or paperclip (attaching) icon would be better

**Fix:** Since the the paperclip icon is conventionally associated with being able to attach content to an entry, we took that metaphor, replacing the pin icon with the paperclip icon. We considered a plus icon but that would suggest to users that they could create a new entry rather than add an activity.

**Table 3**

Med-fi	Hi-fi
--------	-------

	
<p>Today's entry with pin icon for bringing in activities.</p>	<p>Today's entry with paperclip icon for bringing in activities.</p>

**Violation:** Landing page has limited functionality and adds an extra level of indirection to the journal entry process.

**Fix:** As described in the first violation, the previous “landing page” had no functionality due to its purpose as a tutorial and was more confusing than informative, so we moved this extra level of indirection and allowed the journal entry process to begin with the blank canvas.

*[refer to Table 1]*

**Violation:** When scrolling, the upper menu bar is not visible, which prevents the user from easily navigating or accessing the search functionality.

**Fix:** The upper navigation bar remains visible when scrolling, and the search functionality has been changed to the search bar to conform better to iPhone app convention.

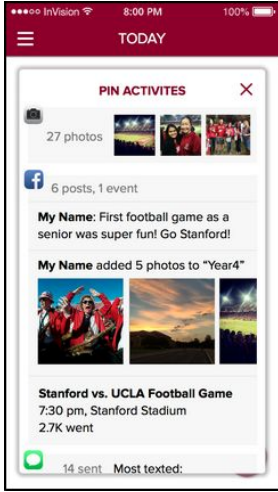
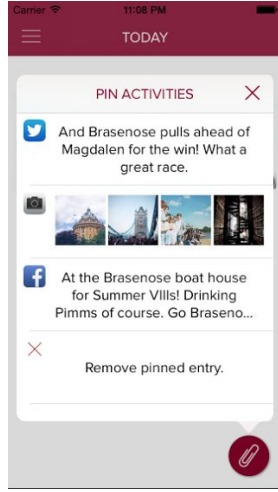
*[no images possible. Refer to hi-fi video]*

**Violation:** There is no way for a user to delete pinned activity from a page.

**Fix:** We previously did not consider the case in which a user may accidentally pin an activity but want to delete it later. In our high fidelity prototype, we added functionality for a user to be able to remove pinned activity from a page.

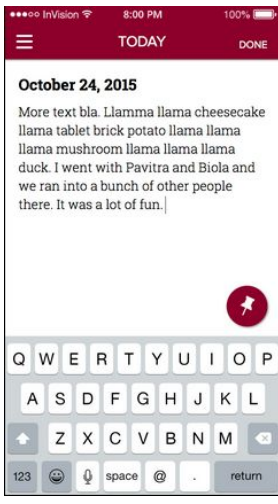
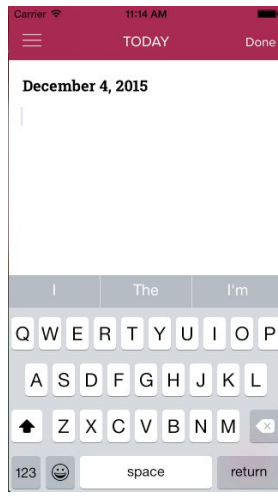
**Table 4**



Med-fi	Hi-fi
	
<p>No way to delete activities once they are pinned to an entry.</p>	<p>Calling up the pin button shows an option to remove the activity after it is has been pinned.</p>

**Violation:** When the user inputs text, the pin button is still visible.  
**Fix:** When the keyboard is raised, the pin button is no longer visible; this adds to the feeling that the pin button is stationary and the keyboard simply raises over it.

**Table 5**

Med-fi	Hi-fi
	

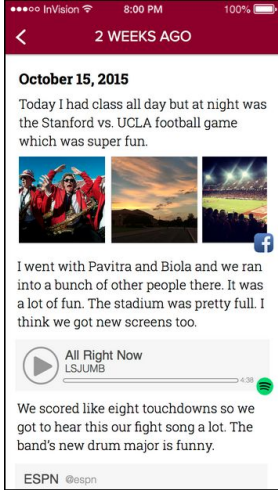
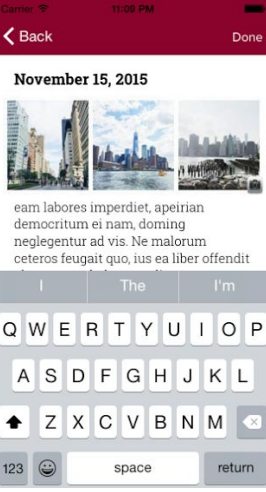


Pin button still visible above keyboard.	Pin button disappears when keyboard is up.
--	--

**Violation:** What do I do if I want to jot something down from a previous day?

**Fix:** We debated what qualifies as a “day” and considered giving users the option to change what they want their “day” to be by allowing them to customize the time that their it begins and ends. However, we determined that this is too confusing and does not fit with standard convention and standards where a day goes from 12 AM to 12 AM. However, we did add the ability for a past entry to be edited, so when “today’s entry” moves to being a “past entry,” the user can still edit the “past entry.”

**Table 6**

Med-fi	Hi-fi
	
Users can only view old posts.	Clicking on the text of an old posts brings up the keyboard for editing.

In addition, in studio before break we discussed how to make the entry as visually appealing as possible; the purpose of the pinned activity is to jog the user’s memory and give them a starting point from which to be able to journal. With our initial design which stacked each pinned activity into the entry, the entry looked more like a “dump” or simply a collection of scattered pinned activities. We limited users to one pinned activity per entry. That activity is now prominently located at the top of the entry, and the rest of the entry is a plain text view, to allow for a simpler and more aesthetically pleasing entry.

## **Prototype Implementation**

We used Xcode and Swift to implement our native iOS hi-fi prototype. As the primary integrated development environment used by iOS developers, Xcode was a productive environment for building our iPhone 5 hi-fi prototype. Xcode allowed for easy integration with the Cocoa and Cocoa Touch frameworks, provided tools such as the Assistant Editor which allowed us to view the storyboard and corresponding code in parallel, and linked seamlessly to the iOS Simulator to allow us to incrementally test the functionality of our app. We chose to use Swift over Objective-C as our language of choice because of its reputation as being easier to learn. Given that none of us was familiar with Swift, we found certain basic programming functions to still be unnecessarily complex and unintuitive. Additionally, the lack of useful error messages regarding broken outlets between the storyboard and code could be improved. Nonetheless, Swift was a good choice for allowing us to implement our three task flows.

Instead of implementing a database, we used hard-coded endpoints of data for our past entries, trends, and activities for users to pin. Beyond that, the functionality is dynamic. The user can write a plain text entry (simple task) for which the date is dynamically set to the current date. The user can also pin an activity to the entry or remove the pinned activity from the entry (medium task). The user can reflect on the past by viewing past entries or trends (complex task). Each past entry can be individually selected and viewed, and the search functionality for past entries allows you to search past entries filtered based on content in the entry or date of the entry. The user can also scroll through the trends page. Today's entry remains saved after navigation to past entries or trends.

Future work would include implementing the scraping of apps and database management to avoid using hard-coded seed data. We would also consider expanding our application to other dimensions of the iPhone or iPad, instead of just the iPhone 5. It may also be interesting to consider pinning a particular trend to an entry instead of just an activity, since user testing revealed mixed opinions on this; some preferred to simply scroll through cumulative trends while others may wish to pin these trends to "today's entry."

## **Summary**

The process that went into the design and creation of *momentous* was long and surprisingly difficult. People that we encountered challenged our assumptions and often proved them wrong. The iteration was absolutely necessary to the (far from perfect) state of the application now. Iterating with a user-centered design approach brought the

product much further than we anticipated because we were able to make use of the varied needs and insights of interviewees, testers, expert evaluators, and users. We perfected and finessed the *momentous* design with the feedback we received in mind. Without it, the application would be a tool that could only inadequately serve a small user population. So now, we are proud of how far the application has come despite the hard-coded data. Given more time, the implementation could be more robust and versatile but, for ten weeks, we think the application is headed in a direction where it could truly be an asset to people to make their days better and more meaningful.