

Cover Page

Title of submission: The Challenges and Realities of Merging Online Banks

Category of submission: Design Case Study

Name and full contact address (surface, fax, email) of the individual responsible for submitting and receiving inquiries about the submission: Abla L. Hamilton, Bank of America, CA5-701-13-15, 1455 Market St, 13th floor, San Francisco, CA USA, +1 415.436.5027, abla.hamilton@bankofamerica.com

The Challenges and Realities of Merging Online Banks

First Author

Abla L. Hamilton
CA5-701-13-15
1455 Market St. 13th floor
San Francisco, CA 94117 USA
abla.hamilton@bankofamerica.com

Second Author

Suzan Revah
CA5-701-13-15
1455 Market St. 13th floor
San Francisco, CA 94117 USA
Suzan.revah@bankofamerica.com

Abstract

The recent merger of Bank of America and Fleet Bank presented unique challenges that arose from the effort to combine two online banking applications. Different functionality and different navigation systems, combined with different and sometimes conflicting business goals and stakeholders' views, significantly impacted the user interface design process.

This study will focus on one particular project aimed at facilitating this transition (or merger), the Online Banking & Online Investing integration project. Employing user-centered design techniques, the project team was able to validate user-focused design decisions that contradicted the initial direction of the line of business. However, by collaborating with our business partners and stakeholders, we were able to determine and develop design compromises that supported business goals and ultimately provided an acceptable customer experience.

Keywords

Interaction Design, User-Centered Design/Human-Centered design, User Interface Design, Organization Culture, Web Services, Financial Services

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee. Copyright © 2005 AIGA | The professional association for design.

Project/Problem statement

The Bank of America Online Banking & Online Investing integration project primarily focused on three key functionality changes to Bank of America's Online Banking application:

- Displaying brokerage account balance information
- Adding transfer capability between brokerage and bank accounts
- Providing access to the Banc of America Investment Services, Inc. Online Brokerage application *from* Bank of America's Online Banking

The project had two high-level business objectives:

1. To provide access from Bank of America's Online Banking application to the Banc of America Investment Services, Inc. (BAISI) Online Brokerage application for current Bank of America Online Banking customers who also had brokerage or investment accounts with Banc of America Investment Services. Once coordination between these two applications was established, the goal of the project was to enable customers to sign in to Online Banking and access the Online Brokerage site without additional authentication. This effort also supported a strategic eCommerce direction that provides access to multiple Bank of America authenticated (or private) sites using a single Online ID and Passcode.

2. To support the Bank of America/Fleet merger by addressing a critical gap in the Fleet customer online experience. Specifically, the Fleet HomeLink Online Banking portal application already had combined access to Fleet's Quick and Reilly Online Brokerage application. When the Fleet customers were migrated to the Bank of America Online Banking application during the summer

of 2005, we needed to have the same functionality available for them.

The anticipated result of this project was twofold: an increase in customer satisfaction with Online Banking for brokerage account holders and a subsequent increase in customer retention.

The Online Banking & Online Investing integration project was the first coordinated effort by the eCommerce team to manage both the Bank of America Online Banking application and the Banc of America Investments Service line of business partners that help define requirements for the Banc of America Investment Service Inc. Online Brokerage application.

Background

- Abba Hamilton, Interaction Designer
- Marc Fusco, Usability Engineer
- Darren Su, Visual Designer
- Suzan Revah, Content Editor
- Rob Landino, Online Banking Product Manager
- Stuart Heitner, Online Brokerage Product Manager
- This project was initiated in July 2004 and deployed in phases from April – June 2005.
- The project impacted the Bank of America Online Banking and Banc of America Investment Service, Inc. *Online* applications.

Challenges

New team members were unfamiliar with user-centered design methods.

This was the first coordinated effort between the eCommerce Online Banking team, the Online Brokerage team, and the Banc of America Investment Services, Inc. (BAISI) business partners. The eCommerce division has an internal user-centered design team that is composed of five disciplines: interaction design, usability engineering, visual design, content editing and user research. This team follows the user-centered design process which focuses on obtaining customer input for the design process through a variety of methods, ranging from the use of personas to guide design work to the validation of usable interfaces through usability testing. Primarily, this team works with the Online Banking product managers to:

- Design and validate business requirements
- Identify users
- Perform task analysis
- Develop user interface design
- Develop and edit content
- Develop visual design
- Conduct usability session with customers

The Online Brokerage application did not have this type of team supporting their application. They were unfamiliar with user-centered design methods, and seemed reluctant to trust the results of the usability sessions that were designed for the project. Without this trust in the user-centered design process, design discussions would often focus on business or politically

motivated “instructions” for the project, rather than the ideal customer experience.

To address this challenge, we worked to educate our Online Brokerage partners throughout the process, stressing the importance of customer testing sessions. While we did take into account the specified business goals, we didn’t fully consider and understand our new Brokerage stakeholders’ perceptions to properly address their concerns and get their buy-in for our proposed designs. This issue would resurface during the final stages of our design efforts by the team.

The Fleet HomeLink online banking portal and the Bank of America Online Banking application do not have the same navigation systems.

The Fleet HomeLink site used top-level navigation focused on products and services (Figure 1). Within the portal structure, in unauthenticated mode, the site presented all marketing information. When a customer authenticated (signed in), the Online Banking and Brokerage Services areas of the site would display the customer’s specific information.

On the other side, the Bank of America marketing site (Figure 2) and the Online Banking site (Figure 3) do not share the same navigation system. Combining the Bank of America sites into one integrated experience like the Fleet site was out of scope for this project.

The result of this challenge was a need to think through how to present both BAISI marketing and private site experience within the functionality-focused Online Banking application.



Figure 1. Fleet HomeLink top-level navigation structure. The organization of the portal focused on product and service offerings. The portal offered the ability to merge the public marketing site and private, authenticated applications, such as online banking and online brokerage. When a customer authenticated, the navigation would remain the same and the page-level information under Online Banking and Brokerage Services would display authenticated sessions in which the customer could see all personal account information.

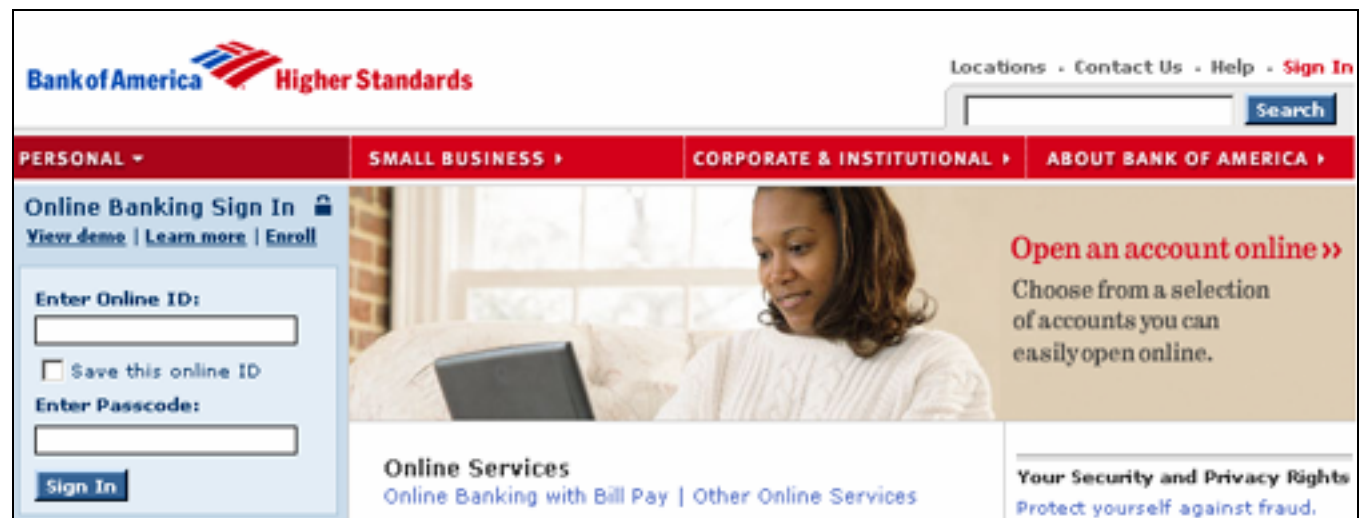


Figure 2. Bank of America marketing site. The Bank of America marketing site does not have the same navigation system as the Bank of America Online Banking application.

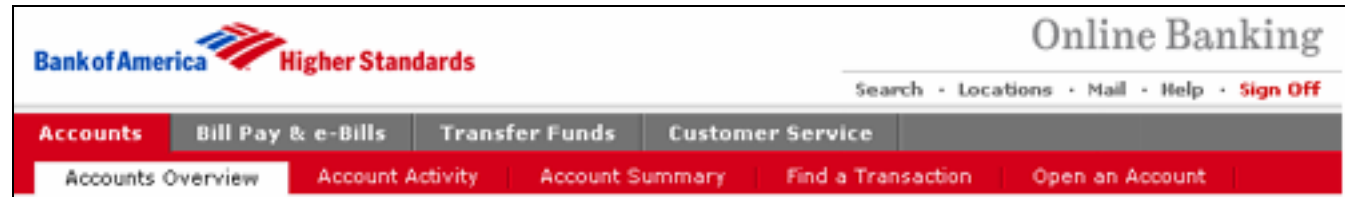


Figure 3. Bank of America Online Banking top-level navigation structure. The organization of the navigation loosely follows a functionality focus, with both Bill Pay and Transfer Funds tabs. To access the full marketing Bank of America site, a customer will have to sign out of the Online Banking application and access www.bankofamerica.com.

Online Brokerage application had limited resources to support the project.

In addition to the consolidation of the online banking application across the two financial institutions, there were also two online brokerage applications that needed to be consolidated. It was decided to maintain the Fleet Online Brokerage platform (formerly known as Quick and Reilly) and sunset the Banc of America online brokerage site.

This provided coordination challenges for the Fleet online brokerage technology team. Their site would need to be re-branded, and existing Banc of America brokerage customers would be transitioned to the Fleet online brokerage application. These activities coincided with maintaining an online brokerage site for the Fleet customers. The impact to the Online Banking and Online Investing Integration project was we would have limited resource commitment from the Fleet online brokerage technology team.

This impact was felt keenly when our original design (Figure 4) for this project was presented to the team. The design called for the addition of the “Trading” tab within the Online Banking navigation, and for adding the entire Online Banking top-level navigation structure to the Online Brokerage site. This would allow for a more consolidated approach between the two authenticated applications, and would support business goals. When customers with brokerage or investment accounts clicked the Trading tab, the Fleet online brokerage application would be displayed with the same top-level navigation system as Online Banking, which would provide for easy navigation between the two applications. If a customer did not have a brokerage or investment account, marketing and upsell information for opening an account would be displayed – similar to the Fleet HomeLink experience. This created experience consistency when navigating between the areas of the application.

Also, a smaller part of the project focused on enabling functionality so that customers could make online transfers between their bank and brokerage accounts.

An additional benefit of the integrated tab design approach was we were providing top-level navigation access to the Transfer Funds tab, which is available on the Online Banking side. The online brokerage site does not have this functionality.

However, due to the size of the development effort that would be required to change the top-level navigation on the Online Brokerage site, the technology team could not support the effort and would not be able to implement this design for our project in time for the April 2005 release.

The Banc of America Investments Services (BAISI) line of business changed their online experience strategy.

At the start of the project, a stated objective was to address the Fleet customer gap by providing access to Online Brokerage from Online Banking. One possible design direction was to follow a similar design that was implemented on the Fleet HomeLink site, which had tight integration with the Online Brokerage application (Figure 4). However, there was a shift in the BAISI line of business strategy to move away from the Fleet integrated approach and to move more toward establishing a separate and distinct investment identity for the Online Brokerage site.

With this new strategy, the BAISI line of business requested new user interface design for those areas where the online brokerage site was autonomous from Online Banking.

Given this challenge, we had to consider the current navigation systems of both sites, and how navigating between the two autonomous sites could be achieved, once again with limited resources on the Online Brokerage technology side (Figure 5).

The figure consists of two side-by-side screenshots of a web interface for Online Banking & Investing. Both screenshots feature a top navigation bar with the Bank of America logo and 'Higher Standards' tagline. The navigation bar includes tabs for 'Accounts', 'Bill Pay & e-Bills', 'Transfer Funds', 'Trading', and 'Customer Service'. Below the navigation bar, there are sub-tabs for 'Accounts Overview', 'Account Activity', 'Account Summary', 'Find a Transaction', and 'Open an Account'. The left screenshot shows a 'Welcome Customer Name - Personal Accounts' page with a 'Using Online Banking' button. It displays a table of 'Bank Accounts' and 'Investments(Brokerage) Accounts'. The right screenshot shows an 'Account Detail' page with tabs for 'Account History', 'Balances', 'Positions', and 'Summary'. Both screenshots include a 'Not FDIC | Insured Not Bank Guaranteed | May Lose Value' warning at the bottom.

Bank Accounts

| Account | Balance* | As of |
|--|-------------|-----------------------|
| Advantage_123 | \$10,000.00 | Today |
| Mary's Money Manager_Aut | \$10,000.00 | Previous Business Day |
| CD_1234 | \$10,000.00 | Previous Business Day |

Investments(Brokerage) Accounts

| | | |
|---------------------------------|--------------|--------|
| Investments_321 | \$100,000.00 | <date> |
| Investments_321 | \$100,000.00 | <date> |

BAD: account balances are net equity as of market close. *base

Dynamic based on if investments accounts are available

Other Accounts & Information

- [Go to Yodlee](#) -> To view and manage accounts through Yodlee.
- [Go to GM Rewards](#) -> To view your GM Check Card Reward Points.

Announcements:

Not FDIC | Insured Not Bank Guaranteed | May Lose Value

Dynamic based on if investments accounts are available

Secure Area (with graphics) Bank of America, N.A. Member FDIC. Equal Housing Lender. © 2012 Bank of America Corporation. All rights reserved.

Figure 4. Conceptual design for Online Banking and Online Brokerage integration. Original design direction incorporated a “Trading” tab for the Online Banking top -level navigation, displayed brokerage account in Online Banking (left), and added the Online Banking navigation structure to the Online Brokerage site (right). Unfortunately, the Online Brokerage technology team was unable to implement this design.

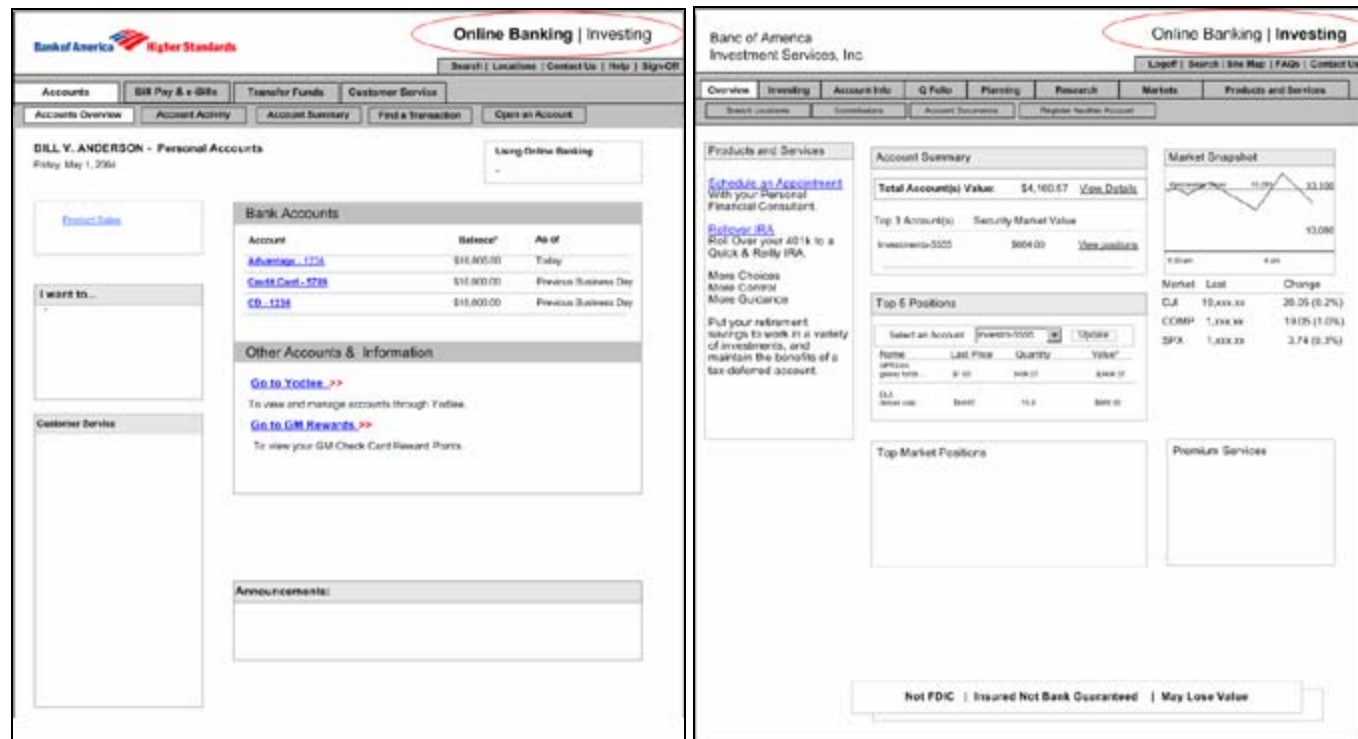


Figure 5. Conceptual design for Online Banking and Online Brokerage integration. Banc of America Investment Services business partners requested an autonomous site from the Online Banking top-level navigation structure (Figure 3). The new design then focused on autonomous navigation systems for both applications, and on the possibility of adding a "fourth" level of navigation to both sites. Online Banking would add a fourth navigation to switch between the two applications (left), while the Online Brokerage site would also add the fourth level of navigation (right).

Solution

Process:

The first step of our user interface team's engagement with a project is to evaluate the requirements and develop a UI Development Plan. A UI development plan is a project plan that specifically follows the user-centered design processes and is eventually added to the larger project timeline. With this plan, we provide transparency into our processes and visibility into the realities of the time constraints around our work.

Our team started by identifying the key tasks and scenarios associated with using the Online Banking and online brokerage applications.

Using these scenarios, we first evaluated the existing model on the Fleet HomeLink portal site to determine what had been successful with their design implementation and what still needed more work. Our usability engineer also performed a heuristic evaluation to help identify potential issues that could potentially impact our project.

We then widened that evaluation to cover other financial institutions with coordinated bank and brokerage application interactions, using Corporate Insight's Broker Monitor service, which provides flash movies that walk through large financial websites. Corporate Insight is a research and consulting firm that provides competitive intelligence to financial institutions.

With the research results in hand, along with our list of constraints and business partner inputs, several design iterations followed, and we narrowed our work down to three design directions.

Solution details:

These designs were evaluated by target end-users in design walkthrough sessions (Appendix A) that relied on paper prototypes:

1. Integrated design in which both Online Banking and Online Brokerage applications share the same top-level navigation. Display brokerage account information in Online Banking (Figure 4).
2. Add fourth level of navigation to "switch" between Online Banking and Online Brokerage applications (Figure 5).
3. Display brokerage account in Online Banking, which links, through an interstitial page, to the Online Brokerage site. On the Online Brokerage site, we provide a control to return to Online Banking (Figure 6).

Customers overwhelmingly preferred design one (Figure 4). Several remarked on the design's user-friendliness, the combined view of all their accounts in one place, and the easy access to the investments area of the site.

Design two (Figure 5), which did not show brokerage account information and was the design supported by the BAISI business partners, was not received as well as design one or three. Customers had difficulty locating the navigation to Online Investing at the top of the page, supporting previous Bank of America Online Banking usability results demonstrating that users tend to focus on the center of the screen, and to ignore peripheral content. Several customers responded that they would like to see the consolidated view of the banking and brokerage accounts, which was not represented in design two.

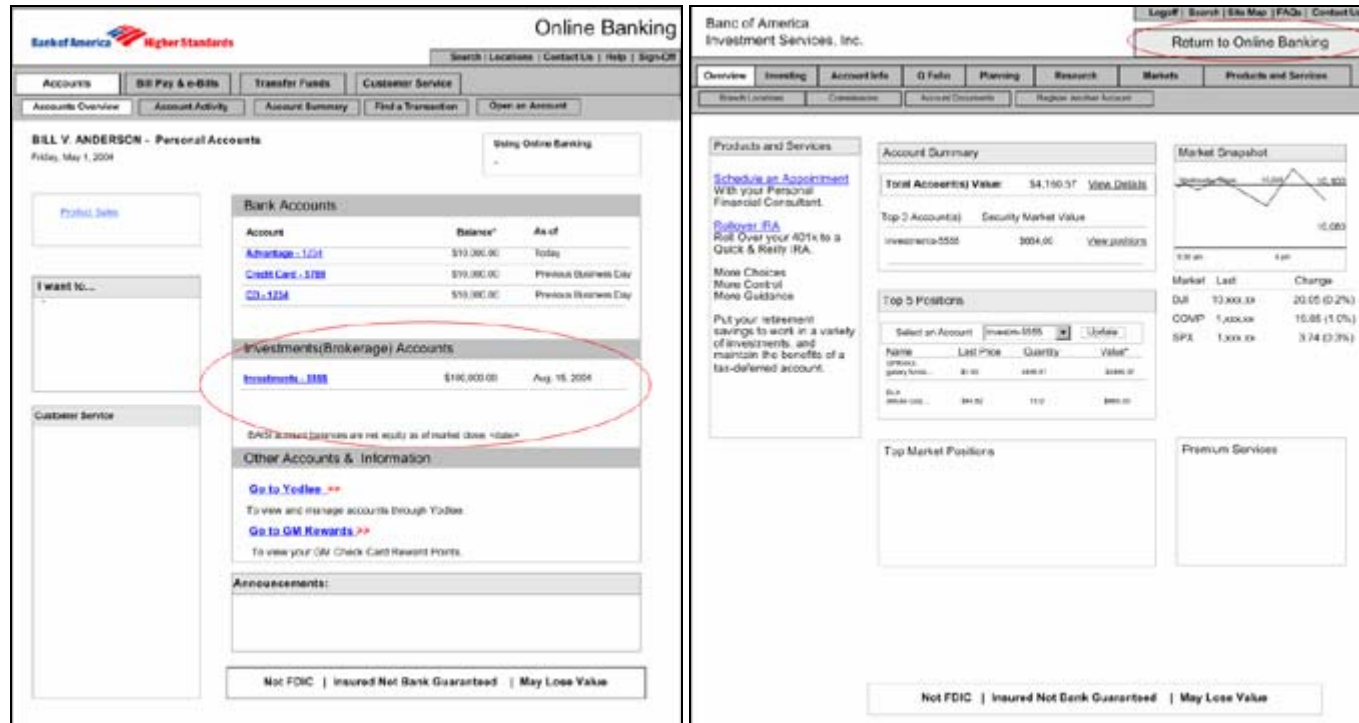


Figure 6. Conceptual Design for Online Banking and Online Brokerage integration. This design specifically addresses Online Brokerage technology constraint where the tab could not be implemented. Online Banking would display the brokerage account link in Accounts Overview page. (shown on left) The account name would be shown as a link that would take the customer to the Online Brokerage site. The Online Brokerage site shows a control for the customer to navigate back to Online Banking (shown on right).

Design three (Figure 6) showed the brokerage account in Online Banking, which was favorably received. Customers were able to navigate to the Online Brokerage site using the account name link, and to use the Return to Online Banking option that was shown on the Online Brokerage site.

Design one, however, was not feasible for this specific project due to technology constraints. Design three supported the original business goals by providing brokerage account information in Online Banking, access to the Online Brokerage application, and a way to navigate back. It also received favorable customer feedback related to displaying brokerage account information within the Online Banking application.

In other projects within Online Banking, responsiveness to customer feedback had been welcomed as a validation of design direction and thus as an acceptable customer experience to implement. However, the results from our customer usability sessions were not convincing to our BAISI business partners and stakeholders. They insisted on proceeding with a hybrid approach of design one and design three. We were asked to show the brokerage account in Online Banking and present the Online Brokerage tab in Online Banking, with the capability of clicking on the tab to change the environment to that of the Online Brokerage site.

We strongly disagreed with this approach, as our experience suggested that it would confuse those customers who selected the Online Brokerage tab with the result that the entire site would change to a different navigation system and different branding. This one tab, we argued, would act differently than all the other tabs in Online Banking. Our staunch view on maintaining the persistent top level navigation is also confirmed by Alan Cooper's evaluation of Amazon.com's tab navigation: "Not only do these areas provide clear navigational options, but their consistent presence and layout also help orient customers." [3]


In the end we developed a compromise design. We would present the brokerage account information on the Accounts Overview page and the account name would link to the Online Brokerage site. (Figure 7) We would add the Investments tab to Online Banking, but present specific content per user groups. For Online Banking customers with brokerage or investment accounts, a click on the Investments tab would show a page still within the Online Banking navigation scheme (Figure 8). Once the customer selected a link from this page, they would be directed to Online Brokerage via an interstitial page.

For Online Banking customers without a brokerage or investment account, we would display a marketing landing page (Figure 9), from which they could select a link and be taken to the online brokerage marketing site.

Additional Online Brokerage technology issues remained with the tab in Online Banking. We requested to link directly to multiple locations within the Online Brokerage application, such as those that displayed the View Positions, View Account History, or Make a Trade functionalities.

We received approval to include only one link for the deployment, so the page we are showing is very light on functionality from the customer's perspective.

But even with this limited functionality, the BAISI business partners and stakeholders got their win, because they now have a highly visible and high valued tab within Online Banking. The final design was also a win from our perspective, though, because customers would not be exposed to strange and unexpected behavior when using our new navigation structure.

Bank of America  Higher Standards


Online Banking

Search · Locations · Mail · Help · Sign Off

Accounts | Bill Pay & e-Bills | Transfer Funds | Investments | Customer Service

Accounts Overview | Account Activity | Account Summary | Find a Transaction | Open an Account

[Using Online Banking](#)
[Frequently asked questions](#)
[Take the Online Banking and Bill Pay Test Drives](#)

 [View your cleared checks online >>](#)

I want to...

[Lower my risk of identity theft](#)
[View my account details](#)
[Pay a bill from Bank of America or transfer funds between accounts](#)
[Pay an external bill using Bill Pay](#)

Announcements

SiteKey is coming soon: SiteKey is an easy and free new service that helps prevent unauthorized access to your accounts while reassuring you that you're at the valid Bank of America website. Sign up for SiteKey

Bank Accounts

| Account | Balance* | As Of |
|--|----------|-------|
| Main Account | | Today |
| Nieri s Account | | Today |
| Save Here | | Today |
| My VISA | | Today |
| Open an Account - View your current offers » | | |

*The balance may reflect transactions that have not yet posted to your account.

Banc of America Investment Services Accounts

| Account | Account Value | As Of Market Close |
|--------------------------------|---------------|-----------------------|
| Brokerage-8868 | \$0.58 | Previous Business Day |

Banc of America Investment Services show the account value as of close of market on the previous business day.

Figure 7. Final design for Online Banking and Online Brokerage integration. Customers see their brokerage or investment account on Accounts Overview with other accounts.


The screenshot displays the Bank of America Online Banking interface. At the top left is the Bank of America logo with the tagline "Higher Standards". At the top right, it says "Online Banking" with links for "Search", "Locations", "Mail", "Help", and "Sign Off". Below this is a navigation bar with tabs for "Accounts", "Bill Pay & e-Bills", "Transfer Funds", "Investments" (which is highlighted in red), and "Customer Service".

On the left side, there is a text box that reads: "By clicking an account name, you will be taken to Banc of America Investment Services, Inc. Online where you can view your investment account details, research, trade and more."

On the right side, there is a section titled "Banc of America Investment Services Accounts" containing a table:

| Account | Task |
|--------------------------------|--------------------------------|
| Brokerage-0868 | View Positions |

Figure 8. Final design for Online Banking and Online Brokerage integration. Customers see this Investments tab page if they do have a brokerage or investment account.

Bank of America  Higher Standards

Online Banking

Search • Locations • Mail • Help • Sign Off

Accounts Bill Pay & e-Bills Transfer Funds **Investments** Customer Service

Investing with Banc of America Investment Services, Inc. ®

At Banc of America Investment Services, Inc. your investment goals are our business

Whether you're looking to plan for retirement or to invest for your child's future, Banc of America Investment Services, Inc. offers financial solutions that fit.

Invest the way you prefer
With Banc of America Investment Services, Inc., the way you invest is entirely up to you, whether you're an independent investor or whether you seek help making your investment decisions.

Let us help you invest the way you prefer:

Advisor-Assisted Investing
A relationship you can trust

- Advice and guidance from a trusted, seasoned professional
- Personalized, comprehensive investment planning
- Customized solutions to meet your investment needs
- Convenient online access to your account information

[Learn more](#) »

Self-Directed Investing
Solutions for the independent investor

- Access to tools and research that help you make informed investment decisions on your own
- Trade discounts
- Powerful online trading capabilities and real-time account information
- Excellent customer service

[Learn More](#) »

Figure 9. Final design for Online Banking and Online Brokerage integration. Customers see this Investments tab page if they do not have a brokerage or investment account.

Results:

This real-world case study outlines technology constraints and design challenges we faced while designing our customer-focused user interface that supported the stated business goals. This is a typical process of most user experience design teams. The most frustrating part of this project was being overruled by our brokerage business partners and stakeholders although we had customer validation of our design directions.

As an internal user-centered design team for Bank of America's eCommerce division, the continual sell of our user-centered design process and services over the past few years has been rewarded by getting more respect and trust from our eCommerce business partners. Our team's involvement has shifted from a last minute request of "can you design our UI and we need it tomorrow" to now being engaged earlier at the strategic level and early project concept stages. We provide our knowledge to help develop requirements and concepts that take into consideration both the business and the customers' goals while allowing our team to be involved in driving innovative design.

For all projects at Bank of America, a stakeholder analysis is not a formal step in our process as we continually work closely with our eCommerce product management partners during our design phases and obtaining buy-in for our customer-validated designs has been easier. Working with new brokerage business partners and stakeholders for this specific project has exposed that gap. With a stakeholder analysis for this project, we could have identified important brokerage stakeholder views in addition to the stated business goals. Our brokerage business partners and

stakeholders were the most concerned about maintaining the same level of visibility within the Bank of America Online Banking site as they had on the Fleet HomeLink Portal site. Using a stakeholder analysis would have assisted our team in understanding their "views" and help us to get their buy-in for our user-centered design process and the designs for the project.

This type of tool, be it a process similar to Jonathan Boutelle's [2] or a specific stakeholder persona as described by George Olsen [4], would be helpful to remind our team that it's not just about the strength of the design or the customer validation, sometimes it really does come down to the strength in your design sell. With this type of tool in hand, it would have saved a lot of disappointment and frustration while working with our brokerage business partners and stakeholders.

References

- [1] Anderson, R. Organizational Limits to HCI: Conversation with Don Norman and Janice Rohn. *Interactions* (May 2000), ACM, 36 – 60.
- [2] Boutelle, J. Understanding Organizational Stakeholders for Design Success. *Boxes and Arrows* (May 2004).
http://www.boxesandarrows.com/archives/understanding_organizational_stakeholders_for_design_success.php.
- [3] Cooper, A. *About face 2.0 - the essentials of interaction design*. Indianapolis, IN: Wiley Publishing, 2003.
- [4] Olsen, G. *Persona Creation and Usage Toolkit*. IA Summit (Austin: 2003).
http://www.iasummit.org/finalpapers/86/86_Handout_or_final_paper.pdf.

Acknowledgements

We would like to thank Graham Jenkin, Tal Herman, Darin Payton, Cathy Fong and Nancy Willoughby.

Appendix A

Excerpts from the "Online Banking 'Investments' Discovery Sessions Results document", Session conducted on August 19, 2004
Report written by Marc Fusco, Usability Engineer

Purpose of this Document

The purpose of this document is to present the results to the Online Banking "Investments" team from several discovery sessions conducted on August 19, 2004. These findings were drawn from the notes/observations from the usability engineer (Marc Fusco) who also moderated the discussions. Abla Hamilton (Interaction Design) also participated as a co-moderator. The sessions included participants who use online banking, and also conduct investment activities online. We had tried to recruit several participants who were Bank of America online banking users and also used BAISE (the Banc of America investment site) but due to the low population of these users in the Charlotte area (~70) we were only able to recruit one person however they later cancelled their appointment. As a result all of the participants recruited did conduct online banking and investment activities at other financial institutions (and not necessarily both at the same institution).

Methodology

The discovery sessions were performed to gather qualitative data through participant feedback and interaction with several paper-based design scenarios. All

of the sessions were conducted at Leibowitz Market Research facility in Charlotte, NC. The participants were initially shown the home pages for the Bank of America online banking site and the investments site (BAISE), and explained the login/password approach (and differences) to each. They were then asked to imagine (for this session) that they used both systems.

Several scenarios were presented with the following goals in mind:

- To obtain initial feedback and preferences on several designs which demonstrate how "investments" will be integrated into online banking (and/or linked from within it)
- To obtain feedback on the usability of the single sign-on process (i.e., linking investments to online banking)
- To gain knowledge on how people think about "accounts" (both banking and investment)
- To obtain feedback on possible "shared functionality" between the investments and online banking sites

Participant Data

Participants were interviewed in small groups (4) and included a total of seven participants. One participant was interviewed alone. All participants were screened to ensure they had a minimal amount of online banking and online investment experience.

Other participant characteristics are presented below.

| | |
|--------------------|-----------|
| Age | |
| 18 to 25 years old | 0 |
| 26 to 35 years old | 2 (2F) |
| 36 to 45 years old | 3 (M, 2F) |
| 46 to 55 years old | 0 |
| 55 years+ | 2 (M, F) |

| Income | |
|--------------------------------|------------|
| Less than \$30,000 | 0 |
| \$30,000 to less than \$40,000 | 1 (F) |
| \$40,000 to less than \$50,000 | 0 |
| \$50,000 to less than \$60,000 | 0 |
| \$60,000 to less than \$70,000 | 1 (F) |
| \$70,000 or more | 5 (2M, 3F) |

| Accesses Online Banking | |
|--------------------------------|------------|
| One time per month | 0 |
| Two times per month | 0 |
| Three to five times per month | 1 (F) |
| Six to ten times per month | 0 |
| More than ten times per month | 6 (2M, 4F) |

| Online Banking Institutions | |
|------------------------------------|---|
| Wachovia | 7 |
| South Trust | 1 |
| Credit Union | 1 |

| Accesses Online Investments | |
|------------------------------------|----------|
| One time per month | 2 (F) |
| Two times per month | 2 (F) |
| Three to five times per month | 2 (M, F) |
| Six to ten times per month | 0 |
| More than ten times per month | 1 (M) |

| Online Investment Institutions | |
|---------------------------------------|---|
| Wachovia | 1 |
| Edward Jones | 1 |
| Scott Trade | 1 |
| Vanguard | 1 |
| Quick & Reilly | 1 |
| Paine Webber | 1 |
| Merrill Lynch | 1 |

Summary of Findings

Each session was divided into separate “task” areas. Each will be presented separately and begin with the focus of the task and the question addressed (as well as the feedback). Several of the questions were designed to elicit opinion and observation while others were more task-based (e.g., navigation).

Task 1 (Integration Designs):

The focus of Task 1 was to obtain initial feedback and preferences on several designs that demonstrate how “investments” could be integrated into online banking. The presentation was counterbalanced across groups in order to eliminate “order” effects. Many of the same questions were asked for each of the designs when several of the first few pages were presented, and if the navigation scheme did not change (e.g., for each of the pages within Design 1) then the questions were generally not repeated. In some cases the questions may have been repeated and therefore the results have been tallied.

Design 1 (Figure 4)

Note that the look and feel generally did not change from the “home” page to the second level pages. Changes included differences in the logo (from “Bank” to “Banc”) and the second level navigational menus. The header in the upper right also indicated “Online Banking and Investing” on both pages.

What do you think of this page?

Most of the participants didn’t have any significant comments.

Three participants did mention that they liked seeing all their account information on the page.

What would you do if you were interested in opening an investment account?

Most participants indicated that they click the “Open an Account” tab.

Several participants indicated that they would click the “Investments” tab.

Several participants indicated that they would click the “Customer Service” tab.

What would you do if you were interested in moving money from your checking account to your brokerage account?

All participants indicated that they would click the “Transfer Funds” tab.

What would you do if you were interested in changing your address?

All participants indicated that they would click the “Customer Service” tab.

What would you do in order to find out more detail about your investments?

Most participants thought that the “Investments” tab would link to a summary page while the “Investments” link (in the “Investments Accounts” section) would link to a page showing details about the account. Note that after the first session we did change the name of the investment account displayed from “Investments” to “IRA” which may be more representative of how one would name a specific account (and therefore clearly distinguishable from the tab name). We had found from the first few participants that when the labels were the same, they expected both links to go to the same place.

Design 2 (Figure 5)

Note that the look and feel did change from the “home” page to the second level (content) pages and reflects the current investment site. The header in the upper right on the “home” page indicates “Online Banking”. Note the “Return to Online Banking” link in the upper left header on the investment level content pages.

What do you think of this page? (home page)

Most of the participants didn’t have any significant comments.

What would you do if you were interested in opening an investment account? (home page)

All participants indicated that they would click the “Open an Account” tab.

What would you do if you were interested in moving money from your checking account to your brokerage account? (home page)

All participants indicated that they would click the "Transfer Funds" tab.

What would you do if you were interested in changing your address? (home page)

Most participants indicated that they would click the "Customer Service" tab.

One participant indicated that they would click the "My Bank of America" link but then (if not correct) click the "Customer Service" tab.

What would you do in order to find out more detail about your investments? (home page)

A few participants indicated that they would click the "Investments" link.

One participant indicated clicking the "Find an Transaction" tab.

One participant indicated clicking the "Account Activity" tab.

One participant indicated clicking the "Account Summary" tab.

What do you think of this page? (interstitial page)

Several participants thought that they would have to sign in to the investments site and be logged off of online banking. They did not like this idea.

One participant indicated that they would like to see it presented only a few times and then never again.

What do you think of this page? (investments overview page)

Several participants indicated that they liked the market summary information presented on the sidebars.

One participant said they would like to see all of their positions listed not just the top 5.

Several participants liked the "Return to Online Banking" link provided in the header.

Several participants indicated that they thought that their online banking sessions could "time out" while they were on the investments site.

What would you do if you were interested in opening an investment account? (investments overview page)

Several participants indicated clicking the "Register another Account" tab.

Several participants indicated clicking the "Investing" tab. One participant indicated clicking the "Products & Services" tab.

What would you do if you were interested in moving money from your checking account to your brokerage account? (investments overview page)

Several participants indicated clicking the "Account Info" tab.

One participant indicated clicking the "Products & Services" tab.

One participant indicated clicking the "Return to Online Banking" link.

One participant indicated clicking the "Back" (browser) button and expecting to see the "Transfer Funds" tab.

Several participants expected to see the "Transfer Funds" tab on this page as they felt that they were still in online banking.

What would you do if you were interested in changing your address? (investments overview page)

Several participants indicated clicking the "Contact Us" link.

Several participants indicated clicking the "Account Info" tab.

Several participants indicated clicking the "Products & Services" tab.

One participant indicated clicking the "Return to Online Banking" link.

Say you were interested in viewing your checking account balance, how would you go about doing that? (investments overview page)

Several participants indicated clicking the "Return to Online Banking" link.

Several participants indicated clicking the "Account Info" tab. After noting their error, they indicated clicking the "Return to Online Banking" link.

One participant also indicated clicking the "Back" (browser) button.

One participant indicated clicking the "Overview" tab (which is the page they are on). After noting their error, they indicated clicking the "Return to Online Banking" link.

Design 3 (Figure 6)

Note that the look and feel did change from the "home" page to the second level (content) pages and reflects the current investment site. The header in the upper right on the "home" page indicates "Online Banking" and "Investing" "toggles". There is also no investment account information on the "home" page.

What do you think of this page? (home page)

Most of the participants didn't have any significant comments.

What would you do if you were interested in opening an investment account? (home page)

Several participants indicated that they would click the "Open an Account" tab.

One participant indicated that they would click the "Investing" tab.

What would you do if you were interested in moving money from your checking account to your brokerage account? (home page)

All participants indicated that they would click the "Transfer Funds" tab.

What would you do if you were interested in changing your address? (home page)

Most participants indicated that they would click the "Customer Service" tab.

One participant indicated that they would click the "My Bank of America" link.

What would you do in order to find out more detail about your investments? (home page)

Several participants indicated that they would click the "Investing" tab.

One participant indicated that they would click the Account Activity" tab.

One participant indicated that they would click the "Account Summary " or the Account Activity" tabs, and if that failed they would use the Search function.

What do you think of this page? (investments overview page)

Most of the participants didn't have any significant comments.

One participant noticed the difference in terminology - "Logoff" and Sign-Off" option on the previous (home) page.

What would you do if you were interested in opening an investment account? (investments overview page)

Several participants indicated clicking the "Register Another Account" tab.

What would you do if you were interested in moving money from your checking account to your brokerage account? (investments overview page)

Several participants indicated clicking the "Online Banking" tab.

Several participants indicated clicking the "Investing" tab.

What would you do if you were interested in changing your address? (investments overview page)

Several participants indicated clicking the "Contact Us" link.

One participant indicated clicking the "Account Info" tab.

Say you were interested in viewing your checking account balance, how would you go about doing that? (investments overview page)

Several participants indicated clicking the "Investing" tab.

One participant indicated also clicking the "Back" (browser) button.

One participant indicated clicking the "Online Banking" tab.

One participant indicated clicking the "Account Info" tab and if that failed clicking the "Online Banking" tab.

Design Preference and Summary

Design 1 was preferred by most participants. Several remarked on the user-friendliness, combining all their accounts for display in one place, and the easy access to the investments area. One participant also indicated a preference for Design 3 but primarily because she was concerned with the visibility of her investment accounts being listed on the default online banking home page (i.e., she indicated concern if in a public space and someone looking over her shoulder). Many participants indicated trouble in recognizing the tabs (toggles) in Design 3 and even though the visual appearance may be enhanced on a computer monitor (vs. paper used here) previous research indicates that users tend to focus on the center of the screen, and ignore peripheral content, and therefore it is safe to assume we would achieve the same results.

When presented with screens that maintained the current online banking look and feel (and features) most participants were able to find the features to transfer money and change their address. When presented with screens that maintained the current Investments look and feel – (presented after the OLB home page) there seems to be lots of variability in responses to most tasks: open an investment account, move money (banking to investments), change address, viewing checking account balance.