

## Heuristic Evaluation of InvestEd

### 1. Problem/Prototype Description

We evaluated the medium-fi prototype of the InvestEd app, which is an app that creates a social ecosystem related to investing and finance, which allows individuals to learn from investors that they can personally relate to and share their investments with their friends.

### 2. Violations Found

#### 1. H1: Visibility of System Status / Severity 3 / Found by: C

- a. Problem Description: No indicator on what choosing the "People" tab should be followed by, after clicking the tab a user would expect a preliminary list of users to show up before applying filters
- b. Rationale: After clicking the "People" tab it is unclear what is some users to follow should already be populated on the screen, which could lead users to clicking this button multiple times
- c. Suggested Fix: Add some kind of message to indicate that users must now apply filters to populate their search of other users

#### 2. H1: Visibility of System Status / Severity 2 / Found by: D, C

- a. Problem Description: The "People" tab already appears to be clicked (dark blue and not visually indented, compared to the "Stocks" tab), the initial step on this screen is not intuitive
- b. Rationale: While clicking the "Stocks" tab does not do anything, it is not clear to a user that they should be re-clicking the "People" tab to start a search for other user to follow
- c. Suggested Fix: Have both "Stocks" and "People" tabs in the same grey color initially

#### 3. H1: Visibility of System Status / Severity 2 / Found by: A, B, C

- a. Problem Description: No chat related received and read indicators
- b. Rationale: After sending a message there is no status indicator on whether the message was received successfully and at what time, and if the message has been read as yet, which could be possibly frustrating users
- c. Suggested Fix: Have a delivered indicator with delivery time and read receipt for each message

#### 4. H1: Visibility of System Status / Severity 4 / Found by: A, B, C, D

- a. Problem Description: The user is not able to see a list of people they are following
- b. Rationale: Either in the "Connections" page or "Profile" page, the user is not able to see exactly who they are following except a total number. It would be expected from a user's perspective to consistently see this list and make changes regularly on their profile

- c. Suggested Fix: Allow a user to see the list of people they follow when "Following" is clicked on the "Profile" tab
- 5. H1: Visibility of System Status / Severity 2 / Found by: B, C**
  - a. Problem Description: Updating user's profile provides no confirmation the update has been successfully received
  - b. Rationale: After updating the bio on a user's profile, the user should be notified that their bio has successfully been updated
  - c. Suggested Fix: Add a pop-up message that the user has successfully changed their bio when complete
- 6. H1: Visibility of System Status / Severity 3 / Found by: A, C**
  - a. Problem Description: When removing a connection is unclear if the connection has been successfully removed
  - b. Rationale: When clicking "Remove" in the "Connections" tab this takes the user to a profile that they follow, without any message saying that this connection has been successfully removed
  - c. Suggested Fix: Add a pop-up message that the user has successfully removed the name of the connection when clicked
- 7. H1- Visibility of System Status / Severity 4 / Found by: D**
  - a. To begin I can't tell which screen I'm on between the homepage, discover, connections and profile
  - b. Fix: highlight with color the screen that I'm on in the bottom bar
- 8. H2: Match between System and World / Severity 3 / Found by: B, C, D**
  - a. Problem Description: The "chat" icon is only accessible from the "Home" page
  - b. Rationale: Chat, is an important part of the app especially with regards to Task 2. Often chat navigation is found on the main navigation bar. This may confuse users, since there is not a dedicated entry point for chat on the app but rather a way to navigate to conversations through notifications and connections lists
  - c. Suggested Fix: Add a chat icon to the horizontal navigation bar at the button
- 9. H2: Match between System and World / Severity 2 / Found by: C, D**
  - a. Problem Description: The list of notifications does not have any action buttons to expand the notification and view what update the notification was referring to, which is convention most users are accustomed to
  - b. Rationale: Users expect to see what the notification was referring to and access the context of that notification that was sent to them by clicking on the notification box
  - c. Suggested Fix: Allow the user to click on the notification and take them to the relevant part of the system
- 10. H2. Match between system and the real world / Severity 4 / Found by: A, C**
  - a. Rationale: Because finances can be very personal information, it is questionable whether all will want others to explicitly see the exact dollar amount that they invest into a given company. In the home page in the followed activity, you can see that people invested \$10 in different situations, but if people are investing

large amounts of money it is questionable whether they will feel comfortable with that information being broadcast to their followers.

- b. Potential Fix: Consider removing the information about exactly how much users invested in different companies from the activity page or create a settings functionality to allow users to set privacy settings.
- 11. H3: User Control and Freedom / Severity 2 / Found by: C**
- a. Problem Description: When choosing a filter in the "Discover" tab it is not possible to remove the filter after choosing it
  - b. Rationale: There is no way to backtrack if the user does want to use that filter on their search
  - c. Suggested Fix: Present an x-button next to the filter to remove it
- 12. H3: User Control and Freedom / Severity 4 / Found by: A, C, D**
- a. Problem Description: User cannot unfollow a person
  - b. Rationale: Users can only start following an individual through the "Discover" tab, but cannot unfollow them after doing so. This might be frustrating for the user is they would not want to see this person's content anymore.
  - c. Suggested Fix: Offer an unfollow button
- 13. H3: User Control and Freedom / Severity 2 / Found by: B, C, D**
- a. Problem Description: After updating a user's bio they cannot go back and cancel this action
  - b. Rationale: In the "Profile" tab, once the user has updated their bio there is no way for them to cancel this option and return to their original profile without any changes
  - c. Suggested Fix: Have the "Edit Bio" text box, have a cancel button to undo a current changes to a user's bio
- 14. H3: User Control and Freedom / Severity 4 / Found by: A, C, D**
- a. Problem Description: Once a profile has been followed from the "Discover" tab on their profile, there is no way for the user to go back to the "Discover" tab and continue looking through other profiles to follow
  - b. Rationale: User seems to be stuck with a users profile after following them in the "Discover" tab, they cannot continue following other individuals which would more likely lead to poor user experience when generating a follower content on their homepage
  - c. Suggested Fix: Allow for users to navigate back from a user's profile whether they follow them or not
- 15. H3: User Control and Freedom / Severity 2 / Found by: C**
- a. Problem Description: Removing a connection cannot be undone
  - b. Rationale: If a user decides to remove a connection on the "Connections" tab, there does not seem to be a way to undo this action is taken by mistake which could lead to errors between individuals and their connections if clicked on by mistake
  - c. Suggested Fix: Have a popup to confirm that the user would like to remove the profile as a connection

**16. H4: Consistency and Standards / Severity 1 / Found by: C, B**

- a. Problem Description: In the chat window, sent messages and stock tags look to similar
- b. Rationale: Messages indicate to a user, text that they have sent. It is unclear at first glance on whether the stock tags are messages the user has sent because they are formatted in the exact same orange dialogue box
- c. Suggested Fix: Have the stock tags boxes formatted differently to indicate that they are not actual messages

**17. H4: Consistency and Standards / Severity 3 / Found by: C, D**

- a. Problem Description: The notification bell in the "Home" stops indicating the number of notifications when clicked on as an icon
- b. Rationale: When this icon is clicked on from the home screen the "7" of number of notifications should be held consistent between screens to avoid confusion and only be removed when a user has clicked through all notifications or removed them
- c. Suggested Fix: Have the icon with the number of notifications consistent between both screens

**18. H4: Consistency and Standards / Severity 3 / Found by: C, D**

- a. Problem Description: The color of filters on the "Discover" page change from grey to orange when clicked but the color of the follow button changes from navy to grey when clicked
- b. Rationale: All button colors, when unclicked and then clicked should have a similar reaction for a user to ensure a consistent experience when actioning of interactive elements
- c. Suggested Fix: Perhaps make this the follow button turn orange when clicked on and have the "See more" button a standard lighter grey

**19. H4: Consistency and Standards / Severity 1 / Found by: A, C**

- a. Problem Description: "Follow" buttons from the "Discover" page and the profile page look different and turn a different color when clicked on
- b. Rationale: Both of these buttons although in different screen should look the same and have the same color response when clicked for a consistent user experience
- c. Suggested Fix: Have the "Follow" button in the profile page look the exact same as the one in the "Discover" page

**20. H4: Consistency and Standards / Severity 1 / Found by: C, B**

- a. Problem Description: Search bars between the chat screen and the "Discover" page are different
- b. Rationale: These search bars should be the same color (not white on one screen and grey on another), with the same resolution, size and font of text
- c. Suggested Fix: Update the "Discover" screen search bar to resemble the chat screen search bar

**21. H4: Consistency and Standards / Severity 1 / Found by: C**

- a. Problem Description: Unseen notifications do not have the same orange dot as unseen messages
  - b. Rationale: All unseen notifications should be treated the same from a user's perspective, to ensure the know what should be acted upon and what is new on the app
  - c. Suggested Fix: Add orange dots for unseen notifications on the "Notifications" screen
- 22. H4: Consistency and Standards / Severity 1 / Found by: C**
- a. Problem Description: The filters on the "Discover" page do not match the "sort by" filter on the "Connections" page
  - b. Rationale: These filters should look the same a drop down menus, specifically because they perform the same action either filtering people to follow or people to connect with
  - c. Suggested Fix: Have the filter in the "Connections" screen resemble the filter on the "Discover" screen
- 23. H4: Consistency and Standards / Severity 1 / Found by: C**
- a. Problem Description: The spacing between the "Your Activity" filters on the "Home" page are not consistent
  - b. Rationale: The clickable text here should all be consistently spaced, whereas "All" and "1y" are incorrectly aligned
  - c. Suggested Fix: Space these filter equally for consistency
- 24. H4: Consistency and Standards / Severity 1 / Found by: C**
- a. Problem Description: The "Chats" heading and the "Notifications" heading are not placed on the same position on both screens
  - b. Rationale: All headings should show up at the same position across screens and be aligned with same y coordinate
  - c. Suggested Fix: Have these headings show up at the same y-coordinate
- 25. H4. Consistency and standards / Severity 1 / Found by: A, D**
- a. Rationale: Inconsistent use of the words remove and unfollow throughout the app, stemming from unclear difference between follow/connect.
  - b. Potential Fix: Set platform convention for the use of remove or unfollow.
- 26. H4: Consistency and Standards / Severity 1 / Found by: D**
- a. When I go to the profile page, there's an option to Edit Profile, but when I click on that the only thing that comes up is Edit Bio
  - b. Fix: I would either add more options to edit on your profile or change the language of either the bio or the profile
- 27. H4: Consistency and Standards / Severity 1 / Found by: D**
- a. Chat text isn't centered within the window or a consistent distance away from the left side of the bubble
  - b. Fix: make the text 12 pixels from the left side of the bubble
- 28. H4: Consistency and Standards / Severity 1 / Found by: D**

- a. When I go to the connections and profile page, it doesn't have "connections" and "profile" in the top left corner, which is what all the other pages have when I go to them
  - b. Fix: Make it consistent with the other pages (put "connections" in the top left)
- 29. H5: Error Prevention / Severity 3 / Found by: C**
- a. Problem Description: It seems like the user can click the search bar in the "Discover" page before they have chosen their filters on "People"
  - b. Rationale: This search bar should only appear once filters have been chosen, to ensure the user is correctly searching for profiles based on "similarities"
  - c. Suggested Fix: Hide this search bar until both filters have been chosen
- 30. H5: Error Prevention / Severity 2 / Found by: C**
- a. Problem Description: The "remove" button is the same size as the "chat" button on the "Connections" page
  - b. Rationale: The similar button sizing and close spacing here could cause users to accidentally click the "remove" button which it is unclear if that can be undone right now.
  - c. Suggested Fix: Have the "remove" button as clickable text on the button left of a connections profile box
- 31. H6: Recognition not Recall / Severity 4 / Found by: A, C**
- a. Problem Description: The "Home" page of the app does not indicate whether "Followed Activity" is of the people I follow or of my connections or both
  - b. Rationale: Each activity that shows up on the screen should specify whether that profile is being followed or if the user is connected to them, so they do not have to memorize their connections list
  - c. Suggested Fix: Have a tag of the feed for each activity shown, and how that profile is connected to the the user
- 32. H6: Recognition not Recall / Severity 3 / Found by: A, C, D**
- a. Problem Description: A user cannot see their list of current connections or people that they follow
  - b. Rationale: A user should be able to consistently see this list to make changes or identify who the connected or followed recently
  - c. Have a "all connections" list in the "Connections" tab and the "following" text clickable in the "Profile" tab
- 33. H6. Recognition rather than recall / Severity 4 / Found by: A, C**
- a. Rationale: The portfolio breakdown pie charts on the profiles are unclear. There is no label indicating that the pie chart is actually the portfolio breakdown, so users would have to remember this. Also, only one part of the chart is labeled, seeming the largest portion of the pie chart. All other portions would be useful for the user to know, and you should not expect users to remember them.
  - b. Potential Fix: Clearly add a label to what the portfolio breakdown is and add a key with colors to what each section of the pie chart represents. It might also be nice to add percentages to the section to get an even more thorough understanding of what the sections represent.

34. **H7: Flexibility and Efficiency of Use / Severity 2 / Found by: C**
  - a. Problem Description: Frequent searchers in the "Discover" page need to consistently click on the filters to populate similar profiles
  - b. Rationale: Users that search often for similar profiles should have these filters already chosen based on their last search
  - c. Suggested Fix: Have these filters default to previous filters that were chosen
35. **H7: Flexibility and efficiency of use / Severity 4 / Found by: B**
  - a. Task 2
  - b. The home page displays Followed Activity however, the connections do not link to their profile. Therefore, if a user thinks the following activity is interesting, they would have to go to the connections/discover page to find the user's profile.
  - c. Fix: Link the following activity to their profiles.
36. **H8: Aesthetic and Minimalist Design / Severity 2 / Found by: C, D**
  - a. Problem Description: The filters on "Your Activity" in the "Home" tab are too small and therefore diminishes each filter relative visibility
  - b. Rationale: These filters are difficult to distinguish given their current size and spacing
  - c. Suggested Fix: Have these filters larger and perhaps in button form as opposed to clickable text
37. **H8: Aesthetic and Minimalist Design / Severity 1 / Found by: C, D**
  - a. Problem Description: The "edit profile" text in is misaligned in the button
  - b. Rationale: Text in rounded buttons should be correctly centered
  - c. Suggested Fix: Have this centered within the rounded button
38. **H8: Aesthetic and Minimalist Design / Severity 1 / Found by: C**
  - a. Problem Description: The "Your Activity" should have a drop shadow
  - b. Rationale: Pretty much everything in the app has a drop shadow even the activity of profiles to follow, however the "Your Activity" box on the "Home" page not having it makes it look flat
  - c. Suggested Fix: Perhaps add some a drop shadow and stronger edges here
39. **H8: Aesthetic and Minimalist Design / Severity 1 / Found by: C**
  - a. Problem Description: The "see more" button on the "Connections" page introduces a completely new color that has not been reflected anywhere else on the app
  - b. Rationale: Coloring of text should be consistent throughout the app and follow a pattern to keep the use of different colors limited
  - c. Suggested Fix: Have this light blue color changed to the dark blue color used elsewhere on this screen
40. **H8: Aesthetic and Minimalist Design / Severity 2 / Found by: D**
  - a. Bottom bar feels crowded with the words underneath the icons, I personally would like to just see the icons and have the words at the top of the screen when I go to that page
  - b. Fix: remove the words from the bottom bar
41. **H8: Aesthetic and Minimalist Design / Severity 1 / Found by: D**

- a. I'm not sure I want the bell in the upper right hand corner after I've already clicked on it and I'm on the notifications screen
- b. Fix: get rid of the second bell

**42. H8. Aesthetic and minimalist design / Severity 3 / Found by: A, B, D**

- a. Task 2
- b. On the home page, there are multiple stats being displayed. There is repetition in the work "since." At first read, I was not sure what was meant by since.
- c. Fix: Add a clear heading to the section (e.i "Since you've been gone.." "Updates") and remove the repetitive "since"

**43. H10: Help and Documentation / Severity 4 / Found by: A, C**

- a. Problem Description: When the user is understanding the difference between profiles to follow and connect with, relevant documentation on this is missing
- b. Rationale: It is unclear on how the app is making this differentiation between profiles and which profiles can be accessed through chat
- c. Suggested Fix: In the "Connections" page, briefly outline the difference between these two aspects of the app

**44. H10: Help and Documentation / Severity 4 / Found by: A, C, B, D**

- a. Problem Description: High level help page missing
- b. Rationale: There could be a high level documentation page that answers frequently asked questions, or explains how to use the app to a newcomer. This could be useful especially because some of the key help information for a user is easy to skip and starting on the app can be confusing
- c. Suggested Fix: Add a high level document page that can be accessed on the "Home" tab

**3. Summary of Violations**

Category	# Viol. (sev 0)	# Viol. (sev 1)	# Viol. (sev 2)	# Viol. (sev 3)	# Viol. (sev 4)	# Viol. (total)
H1: Visibility of Status	0	0	3	2	2	<b>7</b>
H2: Match Sys & World	0	0	1	1	1	<b>3</b>
H3: User Control	0	0	3	0	2	<b>5</b>
H4: Consistency & Standards	0	11	0	2	0	<b>13</b>
H5: Error Prevention	0	0	1	1	0	<b>2</b>
H6: Recognition not Recall	0	0	0	1	2	<b>3</b>
H7: Efficiency of Use	0	0	1	0	1	<b>2</b>
H8: Minimalist Design	0	4	2	1	0	<b>7</b>
H9: Help Users with Errors	0	0	0	0	0	<b>0</b>
H10: Help & Documentation	0	0	0	0	2	<b>2</b>
<b>Total Violations by Severity</b>	<b>0</b>	<b>15</b>	<b>11</b>	<b>8</b>	<b>10</b>	<b>44</b>

**Note: check your answer for the green box by making sure the sum of the last column is equal to the sum of the last row (not including the green box)**

## 4. Evaluation Statistics

Severity / Evaluator	Evaluator A	Evaluator B	Evaluator C	Evaluator D	Evaluator E
Sev. 0	0%	0%	0%	0%	
Sev. 1	15%	16%	29.4%	28.6%	
Sev. 2	7%	50%	29.4%	23.8%	
Sev. 3	21%	16%	20.6%	23.8%	
Sev. 4	57%	18%	20.6%	23.8%	
<b>Total (sevs. 3 &amp; 4)</b>	11	5	14	10	
<b>Total (all severity levels)</b>	14	16	34	21	

\*Note that the bottom rows are *not* calculated by adding the numbers above it.

## 5. Summary Recommendations

- Nice work on the Medium Fidelity Prototype!
- The functionality and interactive nature of the app accomplishes all of your three tasks well and you included as much functionality as possible using Figma.
- Many of the positionings of components on pages were intuitive to first-time users
- The Profile pages, were generally lacking detailed and differentiable financial information and maybe introduce a color on these charts on this page
- Right now the app is minimal but leans heavily towards grey and black, which tend not to be associated with "exciting" activity, consider making these visuals appealing and digestible, possibly interactive.
- It would be beneficial to have some sort of indicator in the bottom bar to show the user what page they're on (making the corresponding icon a different color, giving it different shading, having a colored bar underneath it, etc.)
- Currently, it is unclear how the user's stock activity is accessed by the app. Do users have to manually enter their investments or are they collected by some other avenue? This is unclear and seems fundamental to the functionality of InvestEd. We recommend making this more clear for the user.
- Related to the tasks it is unclear the difference between Task 1 and 2 in terms of using the app. It seems both finding a mentor or another investor to learn from and view someone else's investment habits and portfolio are the same. Perhaps, Task 1 is relevant to connections as opposed to public profiles, in which case larger emphasize should be placed on searching for connections in the "Connections" page
- Going forward, we would focus on which tasks you expect users to perform frequently. We would prioritize these tasks by making them straightforward and easy to complete. Other less frequent tasks/actions should still be easy to complete but possibly not front and center. We would also add more color to make the app more inviting and exciting to use.

- Nice work Team InvestEd! We look forward to seeing the final product!

### ***Severity Ratings***

0 - not a usability problem

1 - cosmetic problem

2 - minor usability problem

3 - major usability problem; important to fix

4 - usability catastrophe; imperative to fix

## **Heuristics**

### **H1: Visibility of System Status**

- Keep users informed about what is going on

### **H2: Match Between System & Real World**

- Speak the users' language
- Follow real world conventions

### **H3: User Control & Freedom**

- "Exits" for mistaken choices, undo, redo
- Don't force down fixed paths

### **H4: Consistency & Standards**

- Words, actions, and UI elements should be consistent across the entire platform
- Follow platform and industry conventions

### **H5: Error Prevention**

- Minimize error-prone conditions
- Remove memory burdens, support undoing, and warn your users when necessary

### **H6: Recognition Rather Than Recall**

- Make objects, actions, options, & directions visible or easily retrievable

### **H7: Flexibility & Efficiency of Use**

- Accelerators for experts (e.g., gestures, keyboard shortcuts)
- Allow users to tailor frequent actions (e.g., macros)

### **H8: Aesthetic & Minimalist Design**

- No irrelevant information. Focus on the essentials.

### **H9: Help Users Recognize, Diagnose, & Recover from Errors**

- Error messages in plain language
- Precisely indicate the problem
- Constructively suggest a solution

### **H10: Help & Documentation**

- Easy to search
- Focused on the user's task
- List concrete steps to carry out
- Not too large