



LAB 1

COSC341

Abstract

Investigation and analysis of usability for existing software.

Kaylan Horne

Kaylan.horne@myokanagan.bc.ca

Introduction

This report has been compiled as requested for COSC 341. The system I have chosen to evaluate is the AOL personal finance application, however after completing my initial evaluation of the landing page and sign up/sign in process, I discovered that the actual personal finance application failed to load and would not create my profile. After investigation it seems like this functionality has been broken for some time and it looks as though AOL is not going to fix it. As a result, I have opted to use the Investopedia website for a simulated stock trading application experience. For both sites a user can create an account to add additional functionality to the site, like personalizing aspects of the site and being able to use services offered by the site such as the personal finance application. If a user does not want to create an account, they can still navigate the site to see different services offered and read current news articles that may interest them. To access the AOL site, a user can visit <https://www.aol.ca>, and to access the Investopedia site a user can visit <https://www.investopedia.com>.

Both sites have similar functional and non-functional requirements, below is a list of the important requirements.

Functional Requirements:

- Landing page
- Login/Sign up button
- Form for user account details (name, email, password, phone, birthday, gender)
- Error handling/highlight areas for correct info
- Phone number and account confirmation
- Registered user page – must be logged in to access
- Links to different services
- User without account can view site material
- Security (logging in)
- Password checker to make sure password entered twice matches
- Save/Store data
- List stocks
- Choose stocks to follow/trade
- Trading capabilities
- Cancel a trade after initiating it

Non-functional Requirements:

- Internet Connection
- Computer/Tablet/Smart Phone
- Always up and running/ reliable
- Secure (HTTPS)
- Responsive web design
- Scalable

Learnability

The Investopedia system takes a little bit of time to learn and become familiar with. There is a login button clearly displayed in the top right-hand corner for users to log in. On the left side of the screen is a navigation bar for easy navigation of the site and its different services/features. After that I got a bit lost trying to figure out how to make a portfolio for tracking stocks. Their set up is different as you simulate stock trading by choosing which stocks you want to invest in and they give you a pretend \$100,000 to invest with. It is not as simple as just clicking on the app, enter stock symbols and go. Instead there are tutorials to walk you through their simulation set up, as well as the ability to trade stocks, furthermore there are other trading options such as investing in options, and short calls, and a learning center section.

Efficiency

AOL System: The system is designed to have news articles displayed which a user may be interested in. It shows many different types of articles, such as: Latest headlines, Entertainment news, Living new, Style news. From the landing page, whether a person is logging in, trying to use a service, or just read an article, everything is just one to two clicks away. There is also a carousel which switches between different popular articles. The design of the site is quite efficient since things are only one to two clicks away.

Investopedia System: This system is like AOL as the landing page displays many news articles for a user to choose from. There is also a sign in component on the top right-hand side of the screen as well.

Memorability

The AOL site is simple to use, without a lot of different functionality. It utilizes a lot of external consistency so its easy to recognize certain symbols if you are familiar with google products/services. This design choice would also lend itself to making the site memorable.

The Investopedia site had a steeper learning curve. They have a more robust stock trading/tracking application, so it takes some time to get used to. It is hard to notice some of the links which inhibits a user from being able to navigate the site as easily. The blue text indicates that the text is a link, once a user is familiar with this the site becomes easier to navigate. After spending a few days away from the

site and returning, I found that I was still able to recall how to navigate the site. I was able to remember how to get to my stock simulator. I remembered how purchase some stocks and check my account. The frustration of first discovering how to accomplish some of the tasks burns the process into the user's mind.

Both sites display their affordances well with the use of navigation bars, there are many services offered on the navigation bar. However, Investopedia has a bit of a break down on its use of signifiers when you use their services.

User Errors

The user can make an error entering email information. The error is easily recovered from as the page is reloaded with text and red highlight telling you that the information was entered incorrectly.

There is only one password field to enter, with no check, and the text is hidden. A user could mistakenly enter a wrong password and not know it, then not be able to log in since they made their password incorrectly. This can be recovered by the user selecting the forgot password link, and they will be sent an email to walk through the process of making a new password.

Other areas where a user can make a mistake on the Investopedia site, is when the user must enter in the stock symbol, and the quantity of the stock they wish to buy. If the User enters an incorrect stock symbol, or a quantity that will not work, the page reloads with the error message displaying what the user did wrong, they simply navigate to the input and correct their mistake. A user can also preview their trade and any errors with the order will show up there as well.

AOL will ask if a user wishes to log out or remain logged in once they have hit the log out button, this is to ensure they meant to log out, not accidentally hit the button which is a user error that can possibly occur from time to time. This is also a good example of a signifier to let the user know they hit the log out button.

User Satisfaction

AOL's design was very simple to use, and everything was around two clicks away. Too bad their site is broken, and the finance app does not work.

For the most part AOL does a good job keeping things neat and tidy. They offer a lot of services and provide lots of information on news and finances but manage to keep things from being too overly cluttered.

Investopedia was not as pleasant to use, due to a steeper learning curve but the design is not too bad, with a decent amount of space between all the content and having a lot of functionality. I liked that a user can know nothing about trading stocks before visiting that site and through Investopedia's site they can learn the fundamentals and terminology needed to begin watching and trading stocks. The system is built for business people and casual users that may have a specific purpose of stock trading. These users are not as interested in lots of graphics, colors and fancy things, but more of a professional looking application that is functional and secure.

Investopedia has a similar landing page, which is a pleasant experience for anyone looking to read up on business news. When it comes to setting up a portfolio to watch/trade stocks it was less user friendly to use due to a lack of signifiers.

One of the biggest detractors from the AOL site was how they implemented their advertisements. They use advertisements that automatically produce audio when the page loads, this is very annoying for users if they are in a quiet environment then all of a sudden a ad starts playing when they weren't expecting it.

Summary of Design Principles

The two sites, AOL and Investopedia, that I used for this report are both designed quite well, but AOL fails to meet the users needs because its finance application failed to work. This is a severe lack of usability as it is the reason I chose to sign up to their site. Investopedia has done a good job of meeting the user's needs but admittedly it was a more difficult system to navigate due to some poor design choices, such as a lack of signifiers for the affordances, as well as the system being more complicated due to more features and functionality.

Both sites capitalize on internal consistency between the pages, however AOL had used more familiar symbols for navigation as they chose to use the same symbols as Google, utilizing external consistency for their users to navigate more intuitively as most users are familiar with google products. AOL had a less is more approach to their design, which was easier to understand and navigate in the beginning, but it does not make up for their lack of usability – having services that are broken.

The language used on Investopedia uses more technical terminology, which is understandable as the site is trying to appeal to a more professional user base, as opposed to AOLs approach which is for a more casual user. Investopedia has included informative help page to inform users on many topics and terminology to better their understanding of how to use their site and services.

Screenshots and Notes

The Good:

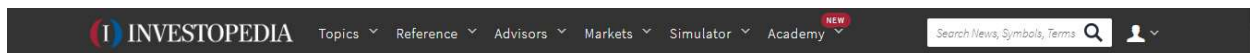


Figure 1. Investopedia's navigation bar offering the ability to navigate between sections of the site easily. Having the login/sign up feature in top right-hand corner is consistent with many sites, utilizing external consistency.



Figure 2. AOL also places their log in/sign up feature on the top right-hand corner of the screen of the screen as well, but their navigation bar is down the left side of their screen.



Figure 3. AOL utilizes recognition rather than recall for their navigation bar. Many symbols are easily identifiable to understand what they represent, and they are used on other websites, utilizing external consistency.



Figure 4. Another example of recognition rather than recall and external consistency from AOL. This symbol is used by google to denote its services.

- BLAHBLAH - is not a valid symbol.

ORDER STOCK

STOCK SYMBOL [Symbol Lookup](#)

TRANSACTION

QUANTITY [Show Max](#)

PRICE ☒ Market ☐ Limit \$ ☐ Stop \$

DURATION

☐ Send Confirmation Email/Message

Figure 5. Example of how Investopedia Highlights when a user has entered an incorrect information. This is showing that a user has entered an incorrect stock symbol that doesn't exist. This is also a good example of user feedback as you can have an email sent to you for confirmation on your order.

The Bad:

Welcome to the New Portfolio. Let's get started!

If you already have a Finance Portfolio, it will be upgraded automatically. And you still get it at **no additional cost**

- Save time and effort - link your brokerage accounts
- We'll import your holdings data fast & accurately
- You're done! Start tracking with ease & precision with no extra fees or costs

Please be patient as we load your new Portfolio


By clicking "Agree & Get Started" you agree to the [Sign Terms of Service](#) and [Policies](#) and you agree to receive email updates about your portfolio.

[CONTACT](#) [SUPPORT](#) [SECURITY](#) [TERMS OF SERVICE](#) [FORM ADV](#)

Figure 6. User Control is lacking on the AOL site here, there is no X in the corner to close loading modal. Could only escape this loading display by hitting back button. There is no progress bar to tell you how far along the process is, as a result, users would wait not realizing the process has frozen because the service is broken.

Kayo321

[View real-time markets data and news](#) Investopedia Game 2018 No End



Investor Profile

Member Since: 2018

Experience

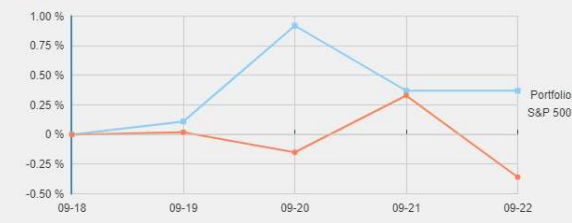
Investing Style

Time Horizon

Account Value: **\$99,639.27**

Rank: **84735**

USD



Date	Portfolio (%)	S&P 500 (%)
09-18	0.00	0.00
09-19	0.00	0.10
09-20	-0.10	0.90
09-21	0.30	0.30
09-22	-0.30	0.30

YOUR GAMES

Investopedia Game 2018 No End »
\$99,639.27 (USD)

YOUR AWARDS

FREE Daily Market Commentary Webinar
Get market insights and trends, ask questions and interact with expert analysts in daily live webinars.

[LEARN MORE](#)

GAME ACTIVITY [View All](#)

Figure 7. After first creating an account, it was difficult to figure out how to access stock trading. You must click the Investopedia Game 2018 No End link, which I circled in red. This could have been made to look more like a clickable link for users to easily identify it is something you should click on. It does not follow the sites internal consistency of having links consist of blue text.



Figure 8. Aesthetic and minimalist design: The white box inside of the carousel seems a bit big and adds a cluttered feeling. It could have been implemented as a footer along the bottom of the carousel instead.

Nielsen and Molich's UI Design Guidelines

For more information on the user experience for these sites please read over the rubric that has been included below which follows the 10 rules of thumb created by Nielsen and Molich for the usability, desirability and utility of applications and websites.

Rule of Thumb	Is this rule being applied? How so?	Is this rule violated? How so?	How can this rule further improve usability, utility and desirability?
1. Visibility of system status	Yes. When an input is being used there is a blue highlight that shows up around the input box to indicate you are entering information in that specific box. Current tab is highlighted.	When establishing a new portfolio, there is no progress bar, only a spinning cog. If it's taking a while the user is not sure if any progress is being made or if it has stalled/froze.	The tabs on the left-hand side of the screen could be a different color to help the user understand which section of the site they are on. I would add a progress bar to the portfolio creation screen to give users a better understanding of what is happening.

2. Match between system and the real world	Yes. The main pages that users land on contains information they are interested in and it is in everyday language. They provide a tab with a link to the Terms page which explains the fancy terminology related to the site pages and explains legal jargon.		If there is a term that is not well understood in plain terms it could be turned into a link with an underline to show that it is a link, which could link directly to the terminology page at the section which contains that specific term.
3. User control and freedom		In some instances, there are no other ways to stop something from happening or loading unless you hit the back button	When creating a finance profile, the loading screen while creating the profile just kept loading and it obviously had an error...The only way to get out was to hit the back button where they could have employed
4. Consistency and standards	Yes, familiar icons are used to denote tasks and navigation. External consistency is applied. Looks like bootstrap has been employed for the development for the site.		
5. Error prevention	It double checks to ensure a user meant to hit the log out button.	When sending an email message, I put in a random string of characters, and the system automatically filled in the @aol.com at the end of the string and sent the email message, instead of clarifying which	I would implement a dialogue box asking the user to confirm the domain for the email to be sent.

		domain I wanted it to be sent to.	
6.	Recognition rather than recall	This site uses a navigation bar with glyphicons to help users quickly and navigate. EI: a letter icon to get to your mailbox. Easy to recognize what each glyphicon represents.	
7.	Flexibility and efficiency of use	User can select which stocks they wish to follow so there isn't a huge list they are faced with, in which they would have to search for their specific stocks each time.	
8.	Aesthetic and minimalist design	For the most part this site does a good job keeping things neat and tidy. They offer a lot of services and provide lots of information on news and finances but manage to keep things from being too overly cluttered.	The advertisements are annoying. Some of them even have sound and immediately start playing once page loads. I do not know a single user that appreciates adds with sound that play automatically so you have to address them and turn it off. I would remove adds that infuriate users.
9.	Help users recognize, diagnose and recover from errors	Yes, if users enter incorrect information the system will highlight the error and display a message for the user to correct their mistake.	On the Investopedia site, there is a section for trading stocks, if you enter a stock that doesn't exist the system displays a message telling you the stock doesn't exist, however the message is contained in a box with a blue background. Typically, it's better to make error messages stand out with a red box or red font.

10. Help and documentation	Investopedia offers an extensive help section, including tutorials, terminology, FAQ, and information to help users learn about the stock market and how trading works in general not just pertaining to their site and services.	AOL could do a better job offering some sort of help or documentation.	

References

Nielson, J. (2018). User Interface Guidelines. Retrieved from: <https://www.nngroup.com>

Investopedia. (2018) Investopedia. Retrieved from: <https://www.investopedia.com>

AOL. (2018). America Online. Retrieved from: <https://www.aol.ca/>