

# HEURISTIC EVALUATION AND USER TESTING OF THE [FORMULA 1® WEBSITE](#)

Duration- 1 Month(November 2022)

## HEURISTIC EVALUATION

### FRAMEWORK: SHNEIDERMAN'S EIGHT GOLDEN RULES

\*Points are on a scale of 1-10 with 1 satisfying the usability factor the least to 10 satisfying the checkpoint.

Usability Factor	Points*	Comments
Consistency		
Identical terminology in prompts, menus and help screens	6	The terminology remained the same across different pages but the contrast of image titles and pop-ups was not consistent.
Consistent color	5	<ul style="list-style-type: none"><li>• Pop ups are highly saturated creating peak contrast. and uncomfortable to look at.</li><li>• Pages that open in a new tab like store and hospitality seem like a different website with a different color palette.</li><li>• The chat option on the store does not fit the brand colors.</li></ul>
Consistent layout	3	<ul style="list-style-type: none"><li>• The layout is not consistent across any page.</li><li>• The homepage layout is not organized logically, information is scattered and not grouped effectively.</li></ul>
Consistent capitalization and fonts	10	Type and font are consistent throughout and are capitalized accurately.

Corporate information grouped together	0	<ul style="list-style-type: none"> <li>• Ad banners are scattered throughout the website in an inconsistent manner.</li> <li>• Pop-us are timed poorly as they are distracting while performing key actions.</li> </ul>
Concise text	7	The text weight is low but consistent.
Good use of whitespace	2	Whitespace is managed poorly and is apparent at first glance because of improper grouping of information.
Similar screen formats across windows	2	<ul style="list-style-type: none"> <li>• Each page seems like a new website with poor breadcrumbs.</li> <li>• Navigating between pages is not a seamless experience.</li> </ul>

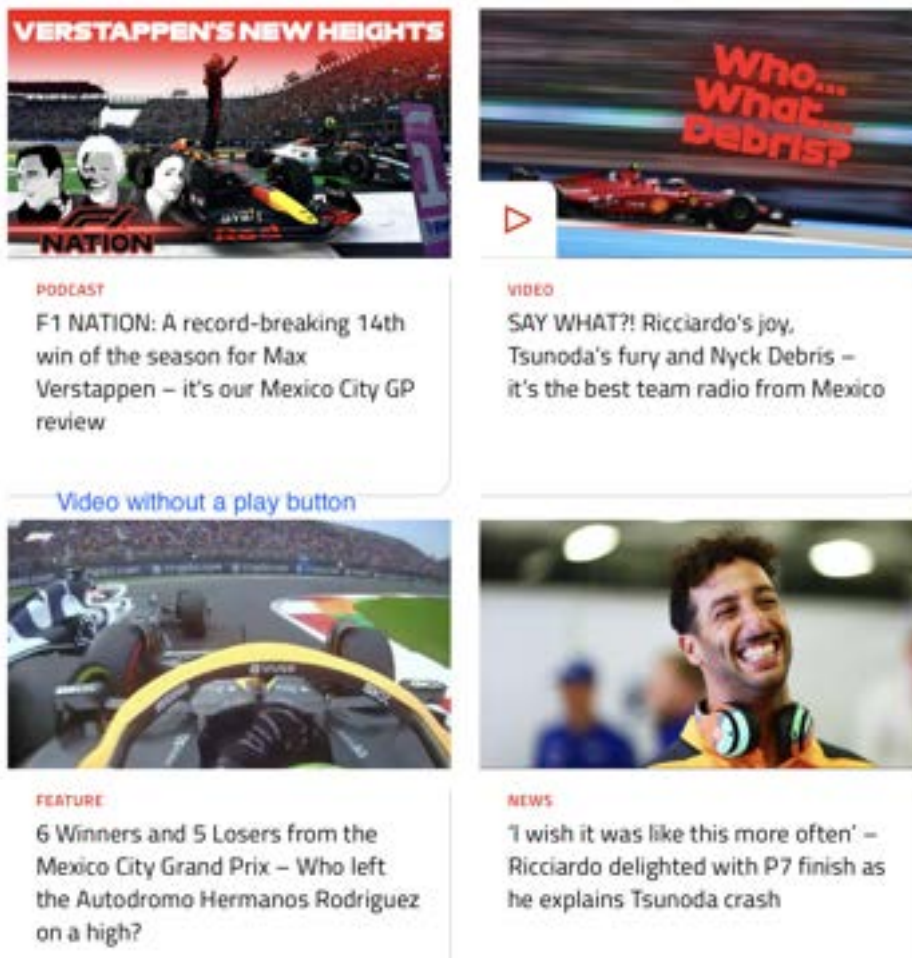


Image 1- One video without a play button while another video has a play button and videos are placed among images.

Universal Usability		
Universally used symbols	6	Symbols may seem familiar to expert users but are not intuitive.
Explanation for novices	5	Driver standings and race timings pages don't offer enough information for novice users.
Shortcuts for experts	10	Keyboard shortcuts work as expected.
Important information within one click on the home page	1	<ul style="list-style-type: none"> <li>Frequently used buttons like F1 Vote and a search bar are missing from the homepage which may frustrate a user when they can't find what they are looking for.</li> <li>Crucial information such as live timings and race schedule are missing from the homepage.</li> </ul>
Trustworthy information	7	The information regarding standings, schedule and timings are updated regularly but with ads popping on the screen unexpectedly, users could mistake this for a random motorsport website.
Readable font	8	The font is readable but the weight is too low which makes it difficult to read for users who may have trouble with their vision.
Filters to fetch required information with ease	3	There are no filtering options but given how horizontal the IA is, this does not affect navigation.



*Image 2- Information is scattered on the navbar and it's not easy to find frequently used actions*

Informative Feedback		
Feedback for every action	7	Most actions do provide feedback but there are no elaborate action items grouped together except for the checkout flow.
Substantial response for major actions	9	There are clear prompts while completing different actions. The pop ups are too distracting but the feedback is concise and relevant.
Show changes explicitly	5	No breadcrumbs to go back to the homepage from the store.
Availability of FAQs page	3	No way to get help/contact on the main website. This option is available on the tickets page and the store with multiple clicks.
Ease of getting help when needed	6	This option is only available on pages where users are making a purchase and requires multiple clicks to initiate.
Ability to contact a real person when they need help	2	Only available on the store page.

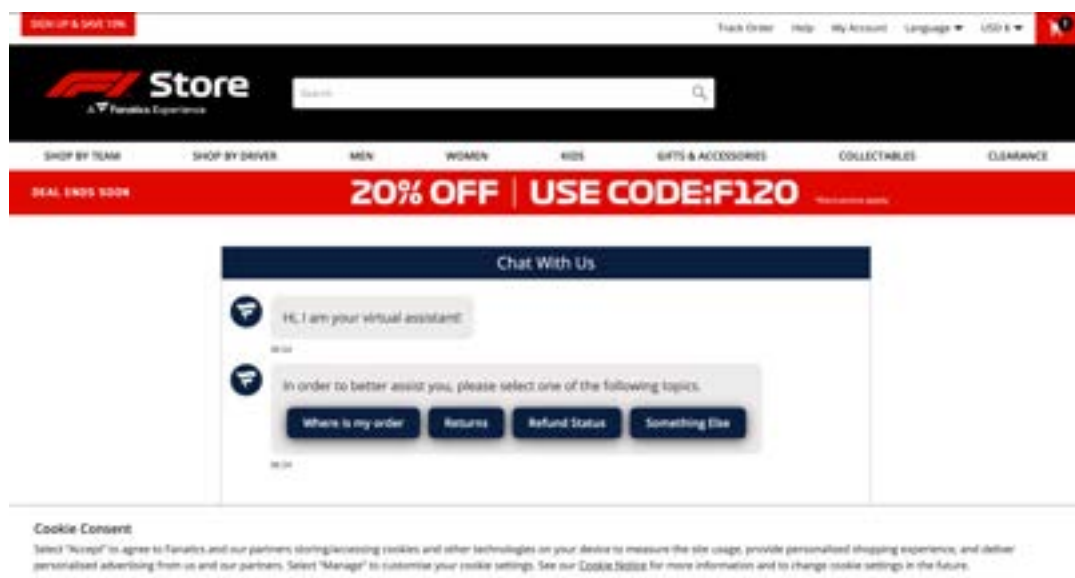


Image 3- No option to go back to the homepage from the store

Dialogues to yield closure		
Sequence of actions organized into groups	7	Actions are sequenced into groups on the tickets and store pages but the CTAs are represented inconsistently with hyperlinks and buttons.
Informative feedback on completion of grouped actions	7	Concise feedback is given when a user completes a group of actions but not all actions are grouped logically so the CTAs are not intuitive.
Indicator to prepare for next group of actions	5	There are no buttons to go to the store from driver profiles. There are hyperlinks which could be mistaken for the title of the driver bios.
Individual pages have relevant information grouped logically	1	Individual pages as a whole contain relevant information that is grouped logically but the organization of this information on the page is poor with important information being placed at the bottom of the page.

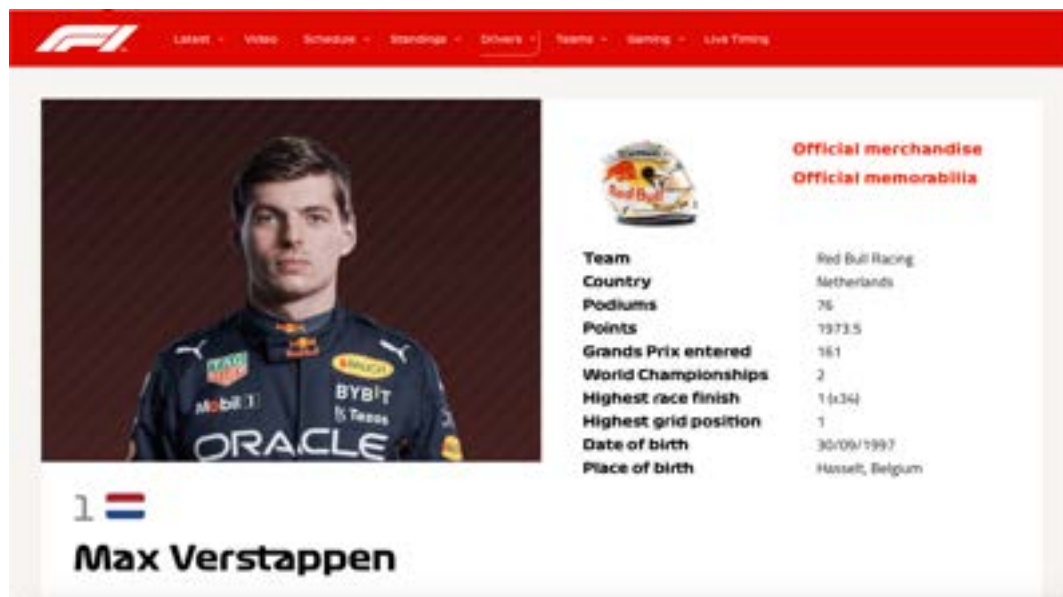


Image 4- Options to go to the store are hyperlinked but they are not buttons while options on the other pages to go to the store are buttons

Prevent Errors		
Avoid serious errors	9	There is little room for error in terms of actions but ads pop ups on every page navigation could lead to errors when a user clicks on it erroneously.
Simple error messages	8	<ul style="list-style-type: none"> <li>The check out pages have simple error messages.</li> <li>No page was inaccessible or broken.</li> </ul>
Information on the next steps when there is an error	5	<ul style="list-style-type: none"> <li>CTAs are not clear on any of the pages.</li> <li>Going to the store from driver profiles seems to be the action that the website aims for but there are no clear CTAs.</li> </ul>
Guide to only repair the faulty parts	9	Given the room for errors is quite small, a guide to only repair the faulty part was not seen on any part of the website and the checkout page allows users to input specific fields rather than the whole form when there is an error.
Erroneous actions leave the interface state unchanged	9	Unless a user clicks on an ad pop up, the state of the interface is consistent when a user performs different actions.
Guide to reverse the action if the state is changed	5	Lack of breadcrumbs makes it difficult to backtrack actions when a user performs multiple actions simultaneously.

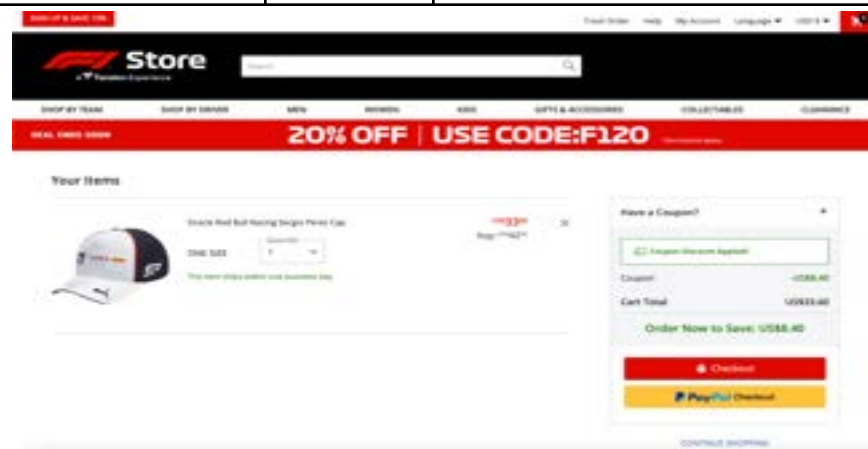


Image 5- Clear feedback during checkout

Keep Users in Control		
Interface responds to actions	6	The store takes 1.8 seconds to load.
Surprises or changes in familiar environments	2	Pages within the website do not follow a color palette and each page that opens in a new tab seems like a different website altogether.
Tedious data entry tasks	8	No long forms were found.
Ease in obtaining information	1	Without a search bar or filtering options, it is difficult to find information.
Ability to obtain necessary result	2	Most of the information any user would need is available on the website but its not organized logically making it difficult to find.
Search bar on the homepage	0	There is no search bar on the homepage

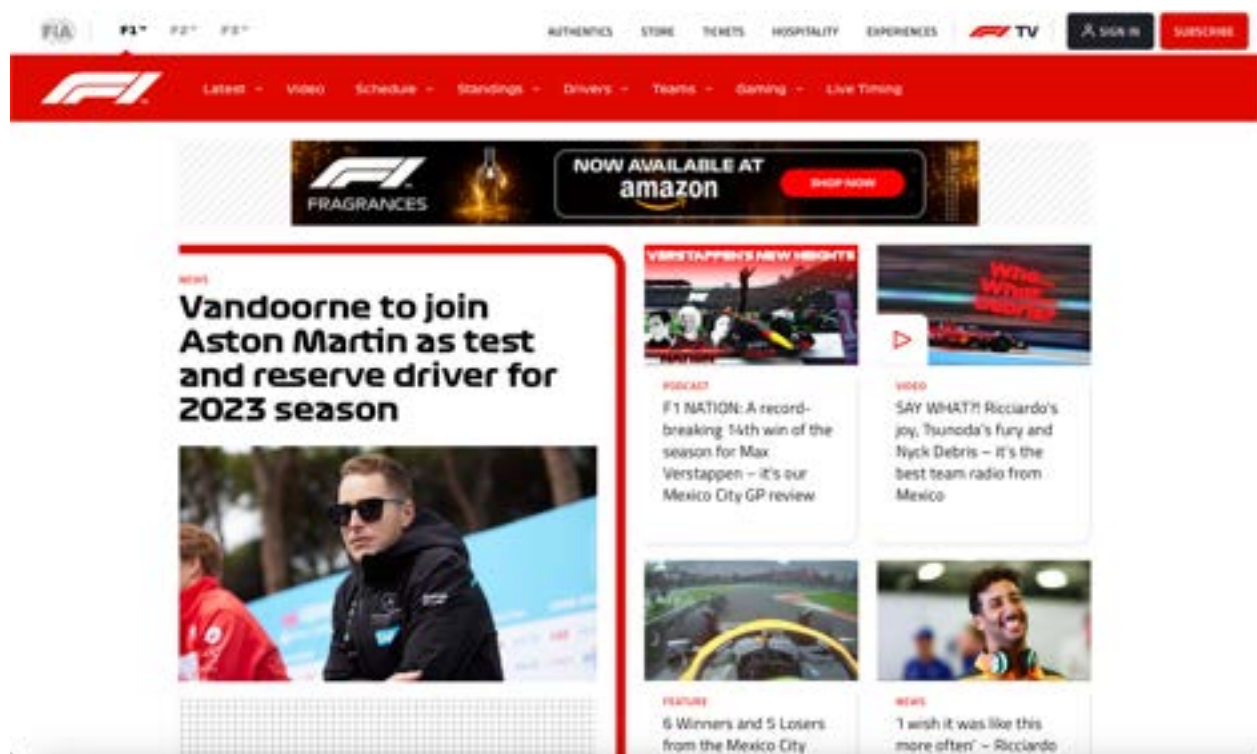


Image 5- No search bar or the vote button on the homepage



Easy Reversal of Actions		
Reversible errors	9	<ul style="list-style-type: none"> <li>There is little room for user error.</li> <li>Video controls are inconsistent in different elements which could lead to errors.</li> </ul>
Encourage exploration on unfamiliar options	7	This website seems to focus on getting users to explore different topics on the page but the way the information is presented makes it hard to find different segments.
Shortcuts for experts	2	There is no vote button or live race timings on the home page
Reversibility of single tasks that are grouped	0	It is difficult to go back to the home page from the store.
Ability to control the level of detail	1	User controls are sparse and inconsistent.
Clear breadcrumbs showing the path	2	<ul style="list-style-type: none"> <li>No breadcrumbs in between pages.</li> <li>Hyperlinks look different on all pages with inconsistent branding.</li> </ul>



*Image 5- Navbar is consistent for pages that load within the same page. Breadcrumbs are not present for pages that open on a different tab.*



Reduced Short Term Memory Load		
Reentry of data on various screens	8	There are only a few forms and these are only placed where necessary and do not ask for the same information given they lead the user to perform different actions.
Lengthy forms fit in one display	10	No lengthy forms were found.
Navigation on homepage presented in a logical manner	2	<ul style="list-style-type: none"> <li>Navigation on the homepage is not logical.</li> <li>Feeder series websites are hyperlinked along with merchandise.</li> </ul>
Clear value propositions	5	<ul style="list-style-type: none"> <li>Value propositions are clear on certain pages and are not intuitive on others.</li> <li>Buttons and hyperlinks are distributed unevenly and are not intuitive.</li> </ul>
Frequently updated content	9	Standings, live timings and schedule are updated regularly but not displayed prominently.



Image 5- No information of the schedule when you land on the homepage. It is only available as an option on the navbar.

## SUMMARY OF THE PROBLEMS DISCOVERED

Problems identified	Improvement suggestions	Heuristic used to identify the problem
No search bar on the home page	Add a search bar on every page with appropriate search results to make it easier for users to find the information they are looking for when they land on the website.	Keep users in control
Advertisements right at the start of the page and distributed unevenly across the page makes me question the ability to trust- a new visitor might assume this is not the official site	Group advertisements together and avoid adding one at the top of the page. Advertisements can be grouped under a specific element to maintain consistency with the brand and make it feel less gimmicky.	Seek universal usability
No clear CTAs for frequently used actions	Add buttons on the homepage to guide users to frequent actions like Vote and update shop hyperlinks with buttons so users can identify that they are clickable.	Reduce short term memory load
The scroll under videos is not formatted correctly	Load videos on specific divs and ensure it fits the frame when a user is scrolling through the page.	Consistency
Whitespace is not distributed evenly	Group elements logically and place them evenly on the screen. There is more weight on the left side of the screen until a certain point and the focus is shifted towards the middle and right side as we	Consistency

	scroll down which is distracting.	
Information displayed is not logical	Display information like race timings and standings before irrelevant content.	Consistency
No option to pause videos on the homepage	Add an option to pause, play and close videos.	Keep users in control
Unrelated images and videos are grouped together	Group images in one element and videos in another and separate irrelevant content from important information,	Consistency

## USER TESTING

### 1 Usability Study Methods

#### 1.1 Procedures

##### A. Pre evaluation-

##### For the task list-

- Mapped the user journey for a typical user based on the frequently used functionalities of the website.
- Created an initial draft of twelve tasks based on the user journey
- Finalized ten tasks for the pilot study.

Tools and devices used- Google Docs, Macbook Pro

##### For the usability study-

- Designed an informed consent form.
- Emailed the consent form along with the next steps to all my pilot and usability test

participants.

- Once the signed consent forms were received, a calendar invite for a 70 minute Zoom call was sent to the pilot study participants followed by usability testing participants.

Tools and devices used- Google Docs, Gmail, Google Calendar and Zoom, Macbook Pro

## **B. During evaluation(testing environment set up)-**

- Both pilot and all the usability tests were conducted on Zoom, were moderated and conducted remotely.
- As soon as each participant joined the call from their homes, they were given an overview of how the test would work.
- Each participant was also asked for permission to record the Zoom session while on call although they had signed the informed consent form.
- Once the study began, along with the zoom recording, audio was also recorded on a mobile device.
- Notes were taken throughout the study as and when necessary and the time was recorded manually using a timer for each task.
- Each participant was given a concise overview of the premise and each task was sent individually via Zoom chat in sequence.
- Participants shared their screen and attempted to perform one task at a time. They were encouraged to talk about what they were thinking/ feeling while performing the tasks.
- Questions regarding certain tasks were clarified on call but no assistance was provided to complete the tasks.
- Participants would indicate when they thought the task was done.

Tools and devices used- Google Calendar, Zoom, iPhone 13 audio recorder, Macbook Pro M1(moderator), each participant used their personal computers/laptops, Notebook and Pen, Manual digital timer

## **C. Post evaluation-**

- The task list was revised after both the pilot studies were conducted.
- After each usability test ended, the results including time and notes were added to a Google document.
- Zoom recording and mobile phone audio recording were processed and stored locally.

Tools and devices used- Google Docs, AirDrop, Macbook Pro

## 1.2 Recruitment

- Listed different categories of typical users of the website.
- Contacted potential participants from my network of friends and acquaintances who were familiar with Formula 1.
- Carried out the usability testing with the people who agreed to participate.

## 1.3 Participants

- Two participants were recruited for the pilot study and five participants were recruited for the usability test.
- Participants recruited were typical users of the website with varying skill levels. While some participants were Formula 1 fans who have been using the website for years, the others were novice Formula 1 fans who are still exploring the sport and tend to use the website as and when needed. These participants resemble the typical users mentioned in heuristic evaluation.
- For the pilot study, one participant was well versed with the website already while the other was fairly new to the sport. This gave a good variation in the feedback received to then be able to update the task list for the usability test. While the more experienced participant instantly understood a majority of the tasks, the novice user asked a few questions during the call to clarify the task they were asked to perform.

Table 1: Participant Demographics

\*The names listed below are pseudonyms and no real names or identification information of participants has been used in this report.

Pseudonym*	Age	Gender	Education	Job	Technical Experience	Date of Evaluation
<i>Pilot:</i> Noah	28	Male	Master of Business Administration	Technical Sales	Expert. Has been using the website regularly for six years	11.10.22

<i>Pilot:</i> Ava	23	Female	Bachelor of Arts in Fashion	Student	Novice. Fairly new to the sport and has used the website sparingly	11.12.22
<i>Main:</i> Liam	22	Male	Bachelor of Technology in Mechanical Engineering	Student	Expert. Uses the website frequently	11.16.22
<i>Main:</i> Tasha	31	Female	Master of Science in Computer Science	Software Engineer	Expert. Uses the website frequently	11.16.22
<i>Main:</i> Oliver	18	Male	Bachelor of Science in Physiotherapy	Student	Novice. Has only looked at the website once before the test	11.17.22
<i>Main:</i> Kimi	45	Male	PhD in Public Health	Public Health Project Manager	Novice. Has only used the website a few times	11.17.22
<i>Main:</i> Pace	24	Female	Master of Science in Human Computer Interaction	Student	Expert. Uses the website frequently	11.18.22

## 2 Usability Study Tasks

### 2.1 Pilot Study

Initially, one set of questions were used for the pilot study where I noted down the tasks that were difficult for the participants to follow. They either asked a few follow up questions once they received the task or misunderstood the task and went on to perform what they thought they were asked to do. One of the challenges during this process was that, while I was trying to be as specific as possible with each task so as to not confuse the participant, I

had to ensure the tasks looked simple and made logical sense especially to novice users. Having one expert and one novice participant helped because they used the website very differently and the feedback received was then incorporated into the task list and the following tasks were rephrased to make them clear and as easy to follow as possible-

Pilot Version	Updated Version for Usability Testing
When does FP1 start for the 2023 Bahrain Grand Prix?	On what date does First Practice 1 start for the 2023 Bahrain Grand Prix?
What is the total cost of four Champions Club 3-Day tickets in USD and how many installment options are available?	What is the total cost of four Champions Club 3-Day tickets in USD for the 2023 season?
Which driver was on the latest Beyond the grid podcast?	Which driver was on the Beyond the grid podcast released on November 13th?

## 2.1 Usability Tasks

1. On what date does First Practice 1 start for the 2023 Bahrain Grand Prix?
2. Find what position Lando Norris holds in the 2022 season driver standings
3. What is the total cost of four tickets for the 2023 Bahrain Grand Prix in the Main Grandstand for all three days in USD?
4. What is the total cost of four tickets for the 2023 Bahrain Grand Prix only for race day?
5. What is the total cost of four Scuderia Ferrari 2022 Team Baseball Cap's with the coupon code- f125 in USD?
6. What is the total cost of four Champions Club 3-Day tickets in USD for the 2023 season?
7. How much does one Authentic Aston Martin F1 Team Bodywork Bracelet cost in USD?
8. Which driver was on the Beyond the grid podcast released on November 16th?
9. What is the cost of a yearly subscription in USD of F1TV to live stream all races? [Only if necessary, account details- [rushenka.christopher@gmail.com](mailto:rushenka.christopher@gmail.com)/ Password-Testing123!]
10. Can you view live timing data from Nepal?



## 2.2 Task List Rationale

A set of ten tasks were chosen based on a user journey where the participant is trying to watch the 2023 Bahrain Grand Prix in person with three of their friends so they perform a set of tasks in a particular sequence on the website to compare the options and view necessary information which would help them make these choices.

These tasks are important to evaluate because a majority of the website users usually get on there for a purpose and given Formula 1 tickets and Merchandise are only sold on the official website, this is one of the main reasons why most F1 fans use the website and I felt like it was important to think about a user journey where the user is trying to accomplish different goals on the website for a specific purpose and these tasks made logical sense.

The user journey of a person trying to organize tickets, merchandise and compare the available options for a group of four to celebrate one of their friend's birthday laid the outline for these tasks. Giving the participants of the study an overview of this journey and setting a premise definitely helped conduct the study. Participants understood why they were asked to perform these tasks once they heard the premise and that helped me make note of interesting things they did and said during the study.

## 3 Results

**Pilot study-** The initial task list was tested with two pilot study participants. Noah was a technical expert and was familiar with the website. Ava was fairly new to the website and the sport which helped me understand if the wording in the initial task list was too technical for a novice user to understand.

Both Noah and Ava attempted all tasks and completed the test in 32m 14s and 70m 6s respectively. The drastic difference in the time they took to complete all tasks helped me correct and modify the initial task list to make it easier to follow while including the necessary details to perform the task.

An interesting point to note in the pilot study was that although the time Noah and Ava took to complete the test were drastically different, their performance in the test was quite similar. Both the participants seemed to complete similar tasks to a certain extent.

**Usability test-** Once the task list was updated for the usability study after incorporating the feedback from the pilot study, the participants of the main study understood the tasks that were given easily. There was little to no discussion or clarification necessary while they were performing these tasks.

### **Summary of the results-**

- The average time taken by the main study participants to complete all tasks was 38 minutes and 48 seconds
- The time taken by each participant correlates to their familiarity with the website. Liam and Tasha completed the study before the average time while the other participants needed more time
- The tasks that took the longest time to attempt on average were tasks that required more number of clicks and navigating to different pages on the website
- Tasks that had a visible indication on the homepage were completed the fastest
- All participants successfully completed tasks 2, 3, 5 and 9 which had a straightforward path from the homepage
- 80% of the participants attempted task 7 and did not complete the task successfully except for Tasha who completed the task under the average time taken to perform this task. She was familiar with this functionality on the website which helped her navigate to the right page and complete the task
- Tasha completed all tasks in almost half the the average time it took the other participants to complete the study. She was familiar with most of the functions on the website
- All participants managed to complete the test in under the time that was specified in the Calendar invite which was 70 mins(Relative to the longest pilot study) which also indicates that the updated task list was clearer to follow compared to the initial draft

\*The names listed below are pseudonyms and no real names or identification information of participants has been used in this report

Table 2: Task Time

Pseudonym*	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Task 7	Task 8	Task 9	Task 10	Total Time/participant
<i>Pilot:</i> Noah	5m 6s	47s	6m 30s	1m 02s	4m 45s	7m 58s	5m 23s	50s	1m 04s	1m 23s	<b>32m 14s</b>
<i>Pilot:</i> Ava	8m 32s	4m 2s	9m 0s	3m 49s	6m 52s	12m 35s	11m 7s	8m 4s	2m 24s	4m 38s	<b>70m 6s</b>
<i>Main:</i> Liam	4m 23s	1m 31s	5m 54s	4m 32s	5m 43s	3m 56s	3m 2s	1m 21s	1m 24s	3m 11s	<b>33m 37s</b>
<i>Main:</i> Tasha	2m 42s	32s	3m 32s	1m 45s	2m 22s	2m 12s	3m 52s	47s	58s	1m 36s	<b>18m 18s</b>
<i>Main:</i> Oliver	7m 42s	2m 11s	6m 45s	2m 21s	3m 57s	10m 04s	4m 30s	8m 22s	1m 32s	2m 43s	<b>48m 07s</b>
<i>Main:</i> Kimi	6m 54s	3m 3s	4m 2s	4m 6s	5m 56s	12m 43s	8m 21s	6m 12s	2m 38s	4m 26s	<b>56m 61s</b>
<i>Main:</i> Pace	4m 45s	2m 32s	3m 57s	8m 2s	2m 23s	4m 54s	2m 13s	5m 46s	1m 34s	2m 3s	<b>36m 09s</b>
<b>Average time/task (Main)</b>	<b>5m 1s</b>	<b>2m 21s</b>	<b>4m 58s</b>	<b>4m 1s</b>	<b>4m 20s</b>	<b>6m 53s</b>	<b>4m 23s</b>	<b>4m 29s</b>	<b>1m 37s</b>	<b>3m 3s</b>	

Table3: Task Performance

1 =Successfully Completed Task; 2 = Attempted, but did not Complete Task; 3 = Did not Attempt Task.

Pseudonym*	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Task 7	Task 8	Task 9	Task 10	Participant Overall Task Completion %
<i>Pilot:</i> Noah	1	1	1	1	1	2	2	1	1	1	80%
<i>Pilot:</i> Ava	2	1	1	1	1	2	2	2	1	1	60%
<i>Main:</i> Liam	2	1	1	2	1	1	2	2	1	2	50%
<i>Main:</i> Tasha	1	1	1	1	1	1	1	1	1	1	100%
<i>Main:</i> Oliver	2	1	1	2	1	2	2	2	1	2	40%
<i>Main:</i> Kimi	1	1	1	1	1	2	2	1	1	1	80%
<i>Main:</i> Pace	1	1	1	2	1	1	2	1	1	1	80%
<b>Individual Task Completion %- Main study</b>	60%	100%	100%	40%	100%	60%	20%	60%	100%	60%	

## 4 Discussion

### 4.1 Problems

1. Majority of the participants were looking for a search bar on the homepage to find the results they were looking for

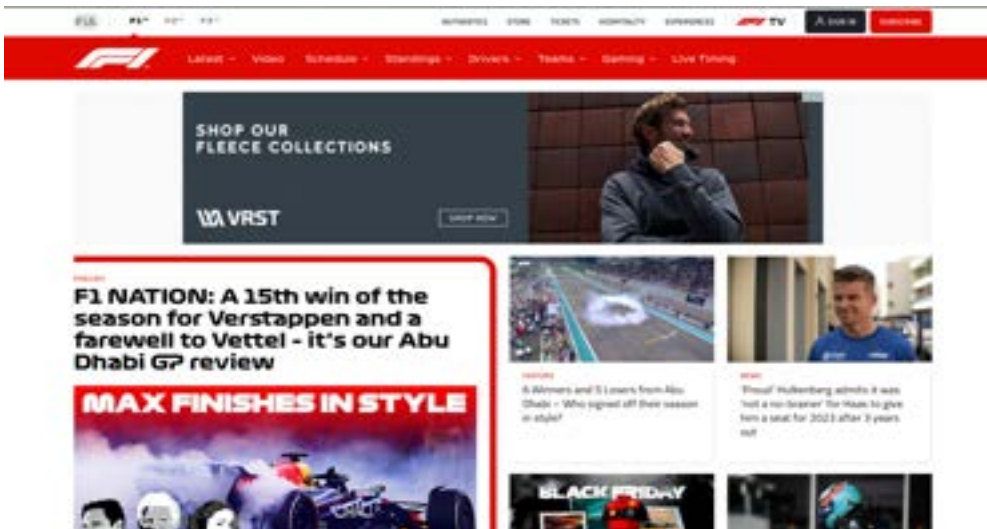
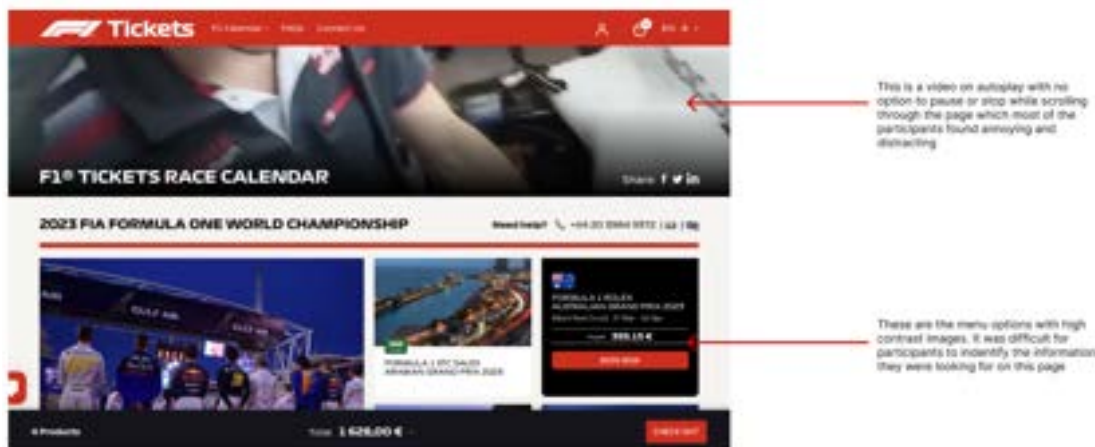
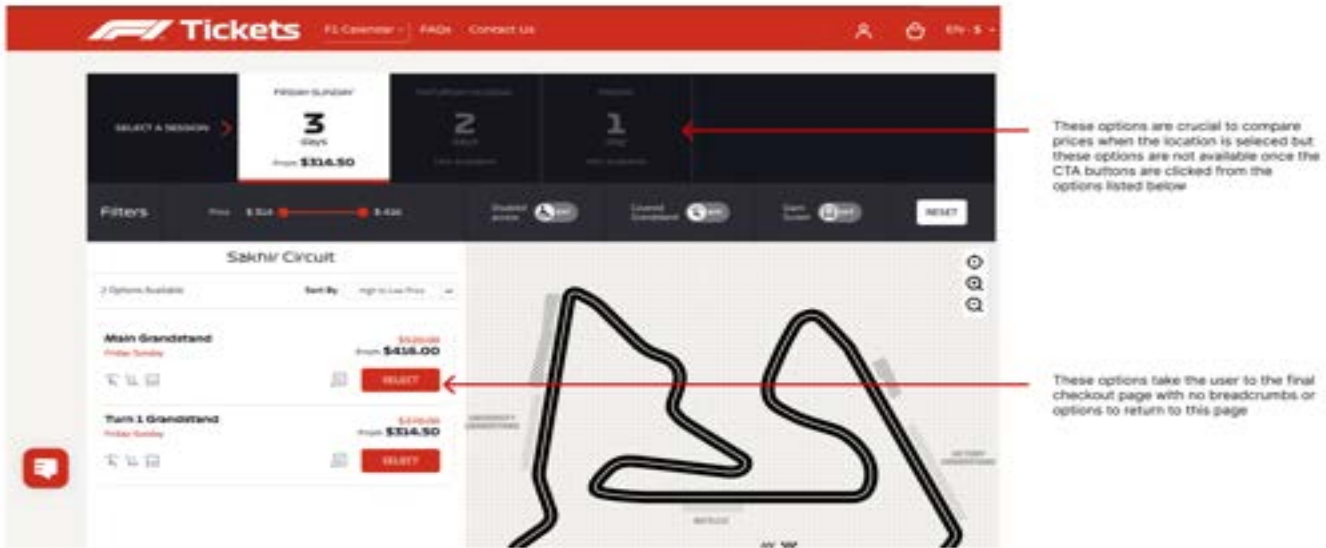


Fig 1: No Search Bar on the homepage

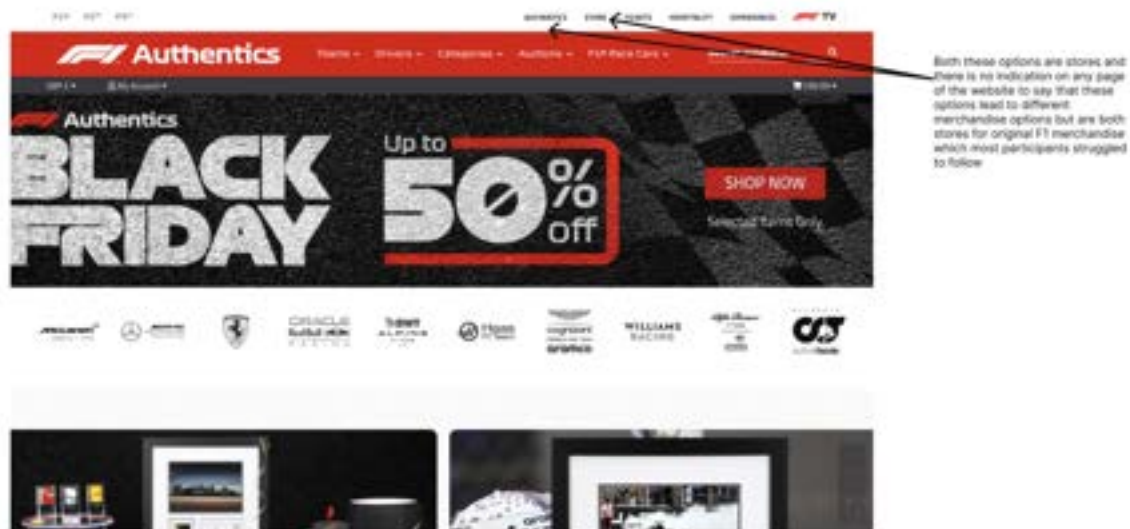
2. The tickets page is overloaded with images to a point where most participants could not find what they were looking for although the information was present on the page. The images are inconsistent and distracting while all the user is trying to do is book tickets.



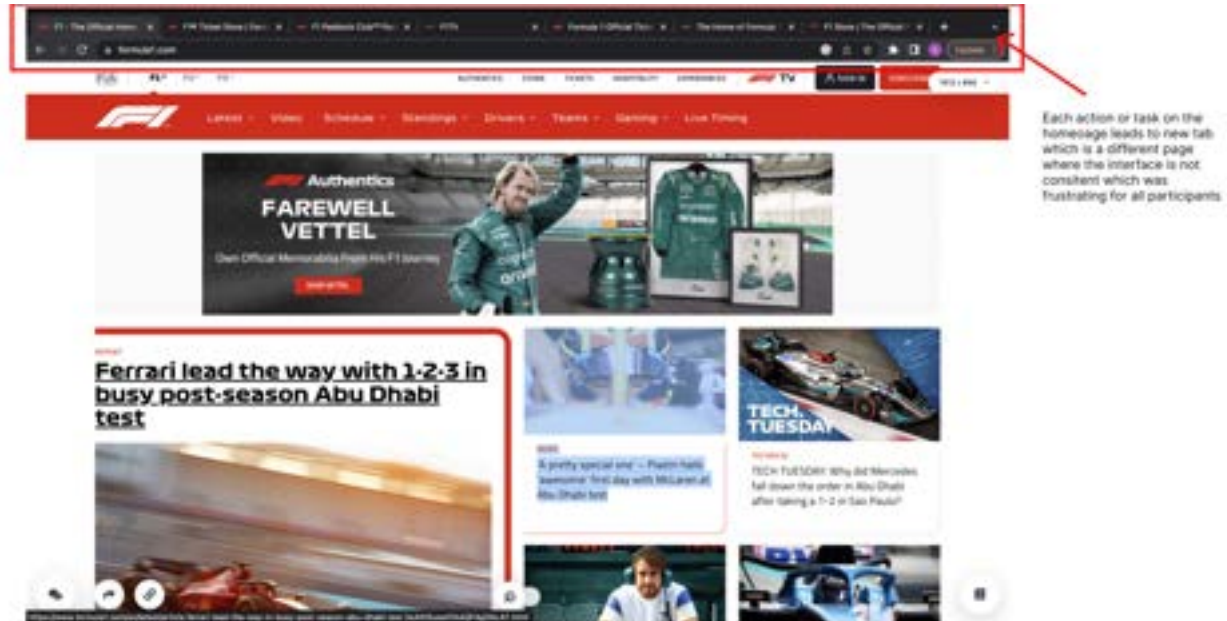
3. The filters for the number of days disappears when a user clicks on one of the available location options and the user has to manually navigate back to the tickets page and start over because there are no breadcrumbs



4. There is no indication about there being two store pages with different official merchandise and the label for Authentics button is not intuitive



5. Each task or action on the website leads to a different/new page and the interface is not consistent on these pages which was frustrating for all participants



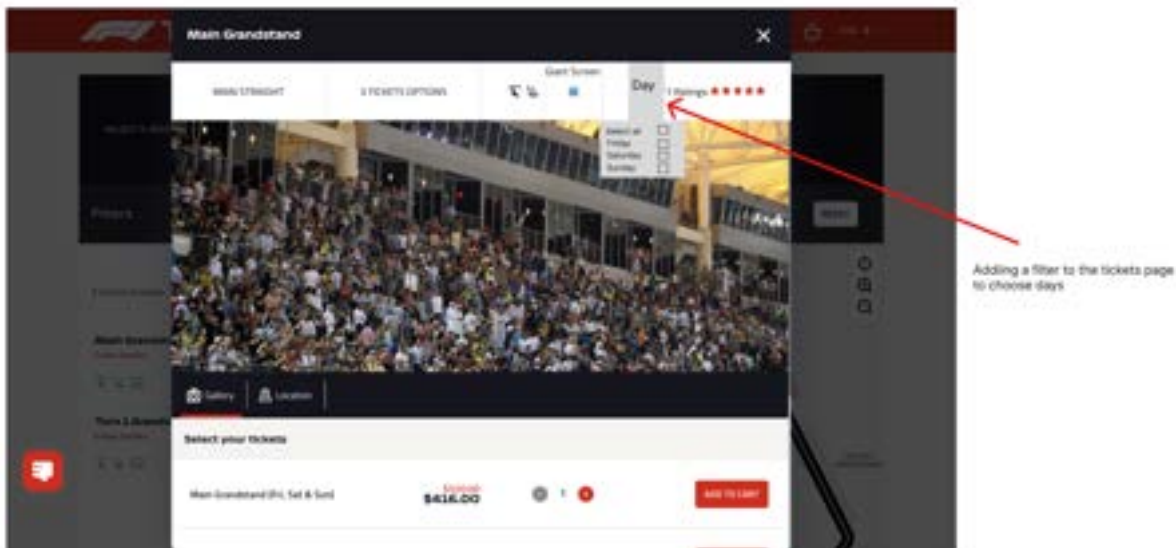
## 4.2 Improvements

1. Most of the participants used control find to look for certain keywords in order to complete the task and were not happy that there was no search bar given the website has multiple functions and finding the right page is not easy. To solve this problem, I would add a search bar to the title bar to allow users to search for the information they are looking for

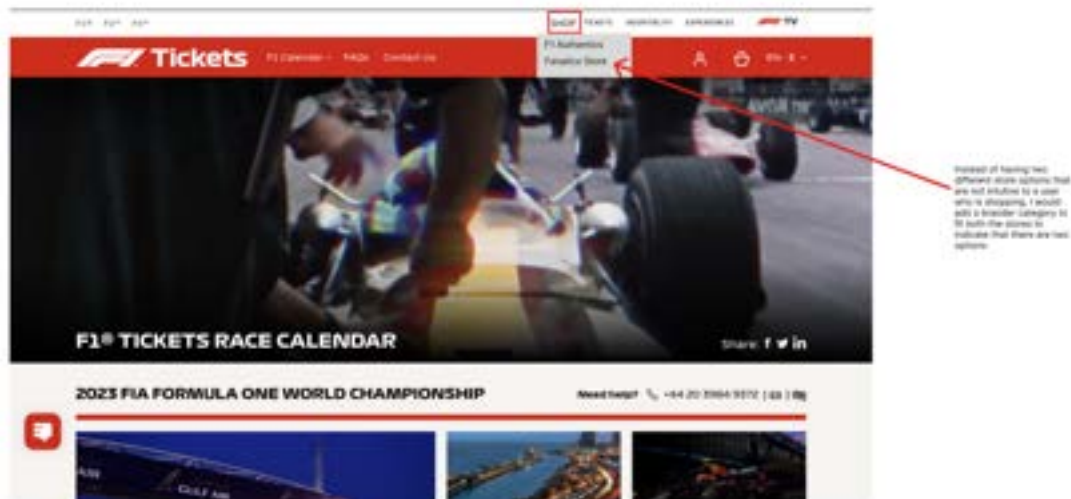




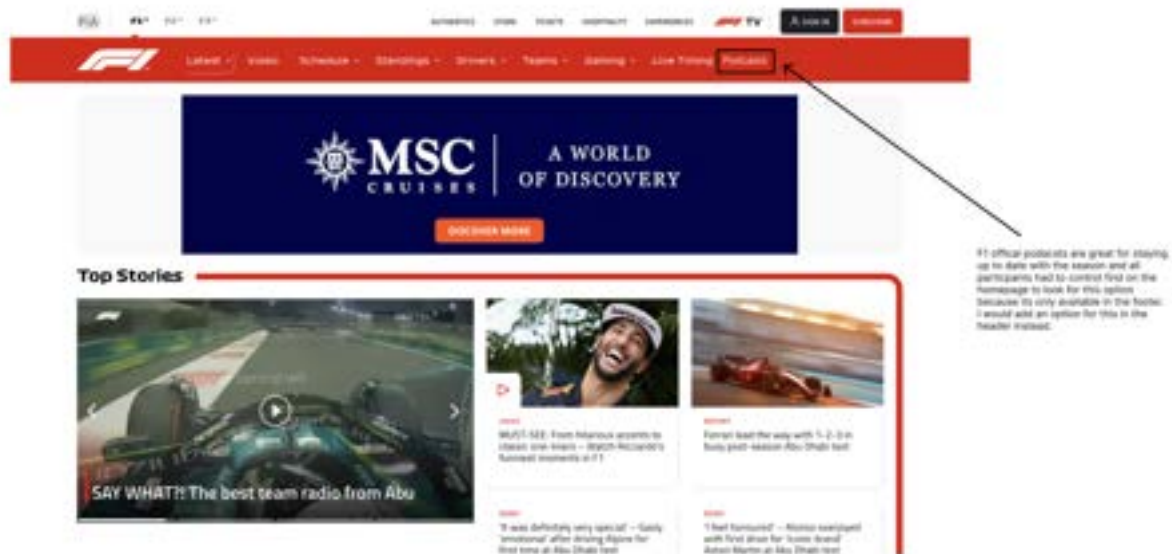
2. To solve the problem of having to start from scratch when a user decided to change the number of days they want tickets for, the add to cart page could have a filter or an option to select the days before directing the participant to the checkout page



4. To indicate to users that there are two different stores to shop from, I would add a category called shop and add both the stores under this category so they can pick the one they are looking for



5. F1 podcasts are popular in the Formula 1 community to stay updated with the news and this is only available as an option in the footer although this is one of the most frequently updated and visited pages of the website. I would add an option for podcasts on the header instead



## Most Important improvements-

Of all the problems that were identified in the usability testing as well as heuristic evaluation, I would prioritize the following issues to be corrected-

1. **Consistency across pages-** This was clearly frustrating for all participants and most of them were unsure if they were on the official page or if they were redirected to a third party website which leads to poor user experience. Building trust with the users is very important while design interfaces and this would be something that I would address with priority
2. **Breadcrumbs-** Given each action opens a new page which is already frustrating, the lack of progress bars and breadcrumbs lead to the user having to start a set of complicated actions from scratch. Some of my participants were visibly tired while trying to purchase anything on this website. Given tickets and original merchandise can only be purchased on this site, fixing this would be no brainer

3. **Decrease visual overload-** The brand color of Formula 1 is bright but that does not mean every single div on the website needs to be just as bright. Majority of the elements on this website are very distracting and borderline annoying while trying to find what one is looking for. Having a simplified interface that highlights useful information would be much better than serving a flashy interface that is hard to look at for more than a couple of minutes

## 5 Methodological Reflection

### 5.1 Comparison: Expert Review & Usability Testing

In the heuristic evaluation, consistency was identified as the major problem with every page having inconsistent interface patterns and content. This was confirmed with the usability testing where all participants pointed out how difficult it was to know if they were actually on the official Formula1 page given each page looks drastically different with varying iconography and components. The fact that each CTA button opens up a new page with no breadcrumbs was found to be confusing and frustrating for all participants.

### 5.2 Contrast: Expert Review vs. Usability Testing

The problems identified during the usability testing were also identified in the heuristic evaluation. However, the extent to which the usability was compromised because of these issues was only identified during usability testing. The participants of the usability study found the navigation and number of clicks to perform each task cumbersome and were not sure if they had completed the task correctly after they were done which indicated poor feedback on the website. While the heuristic evaluation helped identify a lot of design and visual flaws, the usability test helped correlate the frustration that each of these flaws led to which was insightful.

### 5.3 Lessons Learned: Expert Review vs. Usability Testing

During heuristic evaluation, I was mostly looking for design flaws and the overall feel of the website. While I did test the functionality of the website during the expert review, the extent to which usability was compromised was only clear when I performed the usability study. I had asked my participants to talk out loud as they were performing the tasks and I could notice points where they were almost tired of performing certain tasks because the interface was not intuitive.