TDE
DIGITAL CREATIVES IN SPORTS

Concept Validation

Improving the Grand Prix experience for F1 viewers at home

S8 Graduation FHICT

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By Jordi Franssen

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www.tde.nl

Introduction

The focusgroup discussion resulted in an interesting idea to develop into a concept, but first this idea needs to be validated in order to be sure that it will solve the problems of the user. There are multiple options when it comes to concept validation. It can be done with another focusgroup discussion with the target audience, also a video on social media explaining the idea and gathering the audience's reactions could be a potential option. However, I think it's most efficient to make some early wireframes and test them during interviews with the target audience. This will give me qualitative feedback about the idea and it also gives me a little head start on the design phase of the project as I can use the tested and iterated wireframes to apply the corporate branding of RN365 and finish the design. I also conducted an interview with strategy expert Michiel to see if he has some feedback on the idea.

Expert Interview

The focusgroup discussion resulted in an interesting idea to develop further into a concept. Strategy expert Michiel was invited for the focusgroup discussion as well, but wasn't able to attend. Therefore it was decided to do a separate interview with Michiel to get feedback on the idea for validation and discuss possible strategies for the project. The summary of this interview and results are documented below.

Summary

Since this was only a quick and small interview to get some feedback and discuss some strategies, I conducted an open interview without any predetermined questions. I used the same presentation as I used for the focusgroup conducted earlier and quickly explained the project goals and the research outcomes. Next, I explained the general idea that came from the focusgroup discussion.

Michiel found the combination with the RN365 liveblog really powerful. This provides context to the 3D visualizations and makes it actually usable as a second screen next to the live broadcast.

However, this idea is quite complex and the visualizations have to be accurate. If the project becomes too complex with the 3D animations, it's a better idea to use 2D animations instead.

Using the RN365 liveblog in the automated event feed might come with a challenge. If the editorial from RN365 decides to write an item about an overtake between two drivers, the editorial has to include the exact timing of this event as the automated feed is generated instantly and the editorial first has to write an item. The editorial can also write an item about something said on the board radio. However, this doesn't have to be connected to a specific moment, but can also apply for an entire lap. Michiel also recommended starting early with implementing the corporate branding of

RN365 in the designs and prototypes to prevent I'm implementing a design that needs to be changed in the end.

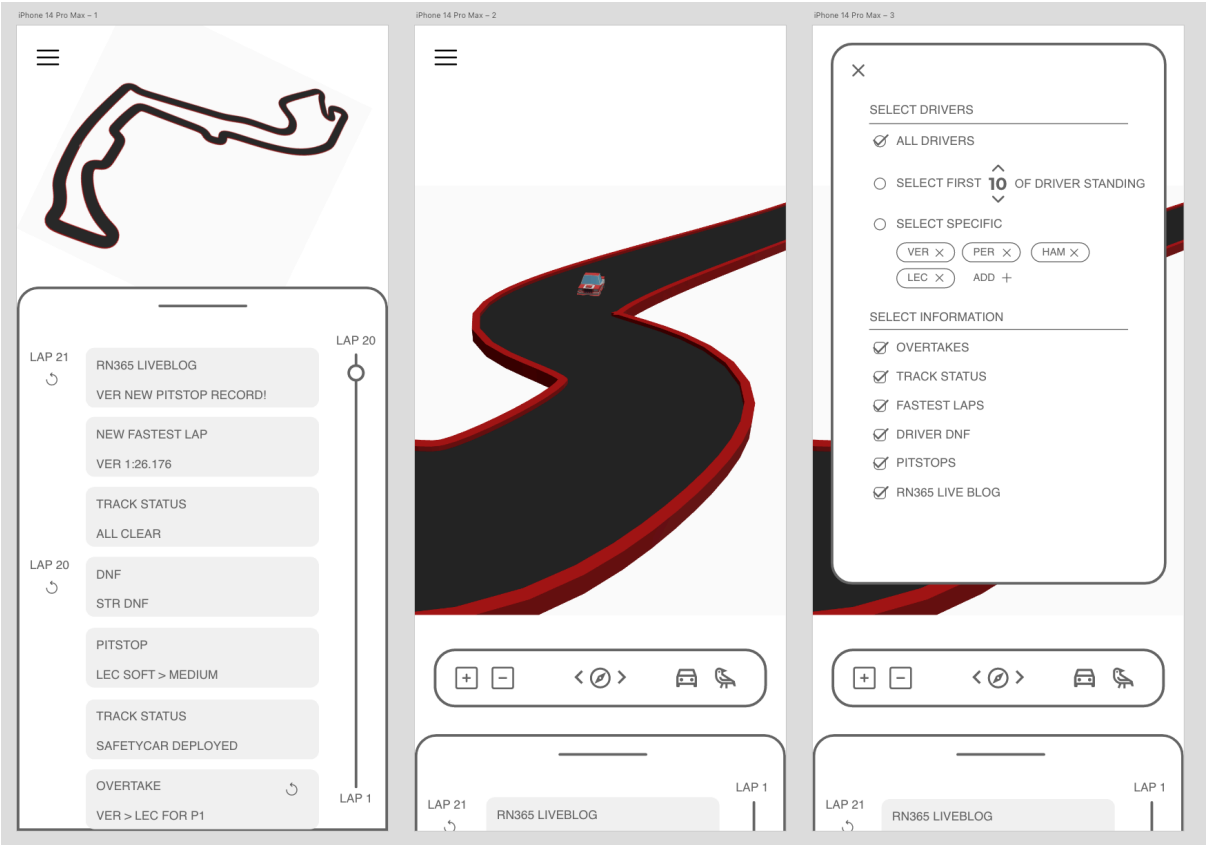
Conclusion

Michiel didn't really have anything to add to the idea. Therefore, this interview provided validation to the idea and research conducted to get to this idea. The hints Michiel gave about visualization accuracy and RN365's corporate branding are valuable in the design phase as I will now plan the meeting with RN365 to discuss their corporate branding earlier. Also, the fact that visualizations need to be accurate enough can be included in the feasibility study of the concept.

Wireframes

The idea is that a race will be simulated with 3D visualizations and there will be a feed that will be automatically filled with events happening during the race like overtakes and more. Also the RN365 liveblog can be included in this feed. The user can navigate through the progress of the race and replay specific events in the simulation. To keep the simulation uncluttered, the user can select which information will be added to the feed and select drivers that will be visualized in the simulation.

I made the first iteration of wireframes in Adobe XD. These are displayed below.



https://s8-graduation.jordifranssen.com/img/wireframes.png

Interview and Usability test

As explained in the introduction, a combination of an interview with a usability test is the most efficient way to validate this idea. The idea is developed in a few first wireframes of which I assume they'll provide a solution for the target audience. However, these assumptions need to be confirmed and therefore they form the hypothesis of the test.

Hypothesis

Below you'll find a series of hypotheses that I incorporated while making the wireframes.

- The event feed will be used a lot and therefore it should be easily accessible and not be hidden behind a button.
- The selection menu of drivers and information will only be used a few times and therefore it should be hidden so it doesn't use too much space on the screen.
- It makes most sense to sort the event feed from most recent to least recent.
- When the event feed is closed, the camera controls appear. These controls should be at the bottom of the screen to make them easily accessible with one-handed use.
- The users can adjust the camera angles by ThreeJS's orbit controls, which work fine with mobile devices.

Test setup and questions

The test will include a usability test and some interview questions about the idea. The wireframes will explain the idea by themself, so I'll ask the interview questions after the usability test because the participant will then understand the idea the most. For accuracy the prototype will be displayed on a mobile device. Ofcourse I will also give a short explanation about the idea before I'll start with the usability test. Below you'll find the step by step approach for the test.

Test introduction

- Short introduction about the problem statement and the idea.
- Present the prototype and explain how the prototype can be used.

Usability tasks

- "Explain what happened in lap 12 of the race."
- "Remove the overtakes from the feed."
- "Only select Max Verstappen as driver."
- "Open the POV camera on the car of Max Verstappen and rotate the camera."
- "Go back to the overview camera."

Interview questions

- "How would this tool supplement your Formula 1 experience?"
- "What do you think about the simulation feature?"
- "Were the camera controls easy to understand?"
- "What do you think about the event feed feature?"
- "Do you think the event feed is sorted in the correct order?"
- "Do you have any improvements about the general layout of the app?"
- "Are there any features that you'd like to have included?"

Test participants and results

I presented and tested this prototype with a few colleagues and made some interesting discoveries. Below you'll read about the tests and feedback that I'll implement in the next iteration of the prototype.

Participant 1: Geert

Geert doesn't have much knowledge about Formula 1. This doesn't make the test less relevant however. His feedback was just as useful.

"Explain what happened in lap 12 of the race."

- Geert was able to answer this question quite easily. The event feed is quite obvious and it's clear how its interactivity works. Geert was struggling with one thing, as he isn't familiar with all racing terms. The term DNF was unknown for Geert. This indicates that it's better to be careful with difficult racing terms in the app.

"Remove the overtakes from the feed"

- Geert was able to complete this step fairly easily as well, no adjustments necessary.

"Only select Max Verstappen as driver."

- Geert was able to complete this step fairly easily as well, no adjustments necessary.

"Open the POV camera on the car of Max Verstappen and rotate the camera."

- This is where Geert struggled a bit because the icon for this feature is quite unclear. This also applies for the track icon. Geert suggested changing these icons simply in words as the function of these buttons is quite complex as well.

"How would this tool supplement your Formula 1 experience?"

- Geert didn't really have an answer to this tool as he doesn't have much knowledge about Formula 1. This applied to most of these general questions.

"Do you think the event feed is sorted in the correct order?"

- It turns out this is an interesting question to ask. Geert was quite in doubt when I asked this question. Most logical would be to read content from top to bottom, but for a liveblog it makes most sense to sort it the other way around.

Participant 2: Bart & Jeffery

This test was executed by Bart, however Jeffery joined the conversation and provided valuable feedback as well.

The information in lap 12 in the eventfeed was again easily found and clear to understand. Filtering the overtakes from the eventfeed caused some confusion. Bart was able to complete this task, but both Jeffery and Bart suggested some kind of confirm button to make it clear for the user that selections have been saved. Also Bart tried to exit the filter pop-up by tapping outside of it. Both these things can be added to the prototype.

Another thing that confused Bart was the POV camera selection screen. Because Bart has already selected Max Verstappen in the information filters screen, he assumed this selection would also apply for the POV camera screen. Both Bart and Jeffery were also in doubt if the order of the event feed makes sense, but they concluded sorting it from bottom to top made the most sense for a liveblog/event feed. Bart gave a good hint to make a good landing page for the user. Bart didn't know that the camera controls existed because he simply hadn't seen them earlier.

Participant 3: John

John took part in the test as well and he had a good suggestion for the information filter. The user should always know what filters are currently applied. When the user dismisses the filter pop-up, he can't see what data is being visualized and what not. John suggested a summary of the applied filters that's always visible for the user.

John was highly skeptical about the POV camera feature. This doesn't provide any more information, definitely because the data we're using won't provide an accurate simulation of the race. YukaJS will visualize an overtake based on timing data and not location data. Therefore, an overtake may look completely different in the simulation compared to how it happened in real life. He found the complete overview of the track, in combination with the eventfeed really good.

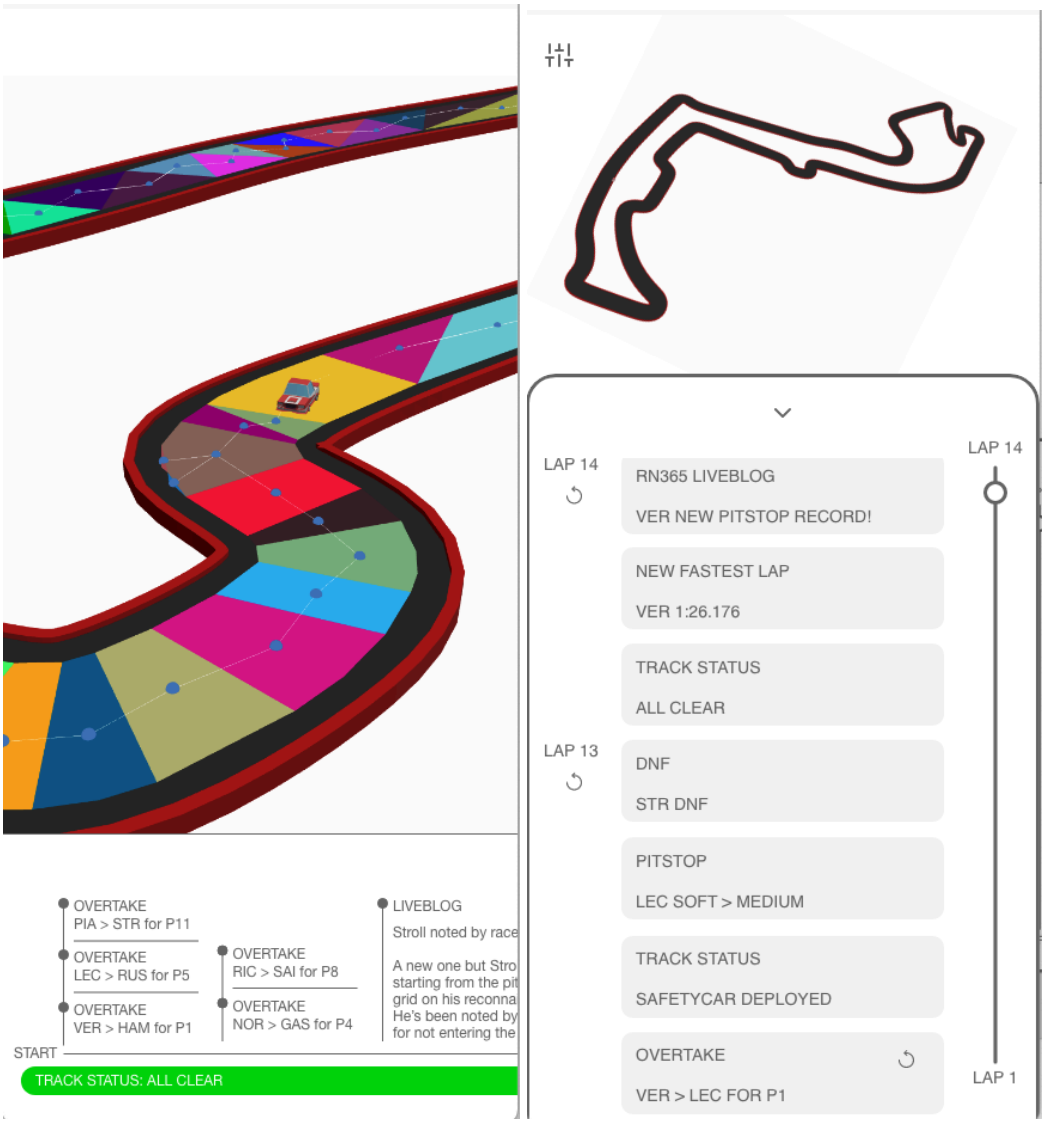
Horizontal or vertical eventfeed

In the visual audit I explained that I could use the liveblog in RN365's website as inspiration for the design of the eventfeed. However, this doesn't mean that I should copy the RN365 liveblog and paste it in my designs, since I don't even know if the eventfeed should be horizontal or vertical. To decide whether to make a horizontal or vertical eventfeed, I built two prototypes and had some colleagues test it. I used a poll function in the chat so the candidates could leave their preference.

9 participants left their preference in the poll and the horizontal eventfeed won by 5 votes. However, John had some strong arguments why to go for a vertical eventfeed

after all. John argued that the vertical eventfeed was much easier to read because the events are too cluttered in the horizontal eventfeed. Also, RN365's liveblog often includes Tweets and ViaPlay embeds which are too large to fit in the horizontal eventfeed. I don't think that other participants considered this while making their vote.

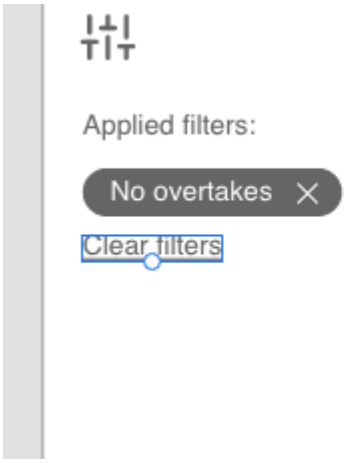
John's argument about the Tweets and ViaPlay embeds is a particularly good reason to go for a vertical eventfeed after all. This is also much easier to develop in the development phase. So, hereby it is decided that the eventfeed will be vertical.



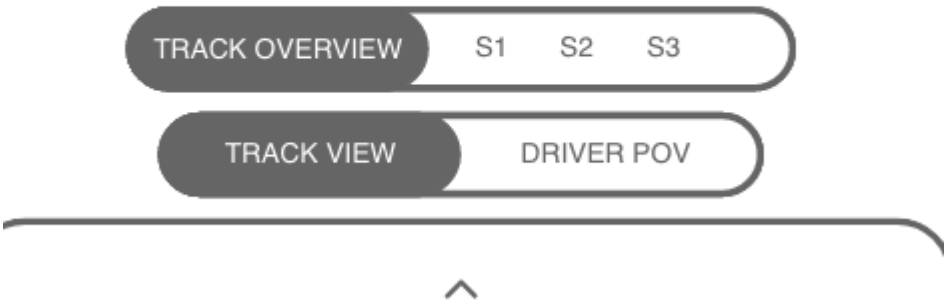
Prototype iterations

The filter popup has an apply-button now, and when a click is detected outside of this window, it closes.

A small overview of the filters is added above the 3D canvas.



The camera controls have been changed to toggles with words instead of icons. When the track view is selected, the user can focus on the track overview and specific sectors. When the driver POV is selected, the second toggle is changed to a list of all the drivers. This list extends beyond the edge of the screen and is vertically scrollable so the user can search for the preferred driver and alter the toggle.



Feedback meetings RN365

I had two separate meetings with RN365 for some feedback about my concept. One with Ruud and Jan together and a separate one with Jan to discuss the data that we're going to use in the liveblog

Meeting with Ruud and Jan

November 9th

Ruud was quite enthusiastic about the idea of an automated liveblog. Although we have to be careful what data to visualize as it cannot be too obvious that we're shoplifting data from FIA. Laptimes and driving position are generally available, so we don't have to worry about visualizing this data. Using exact position data is risky however, as it's too obvious that we're taking the data from FIA. We made adjustments to the concept and now the position of cars won't be visualized, but the position of events will be visualized by making a little blob on the track of where this event happened.

Next, we shouldn't display all different types of messages by default, as this will cause too much information in the liveblog. Also, automated items in the liveblog are now displayed separately from the items by RN365. If RN365 wants to add an item about an overtake, the liveblog should combine the automatically generated item with the manually written one.

RN365 should stay in control of the messages in the liveblog. Let's say a crash happened, then you don't want messages about overtakes in the liveblog.

The liveblog should also not seem like a robot. If the same type of message is generated, the audience will notice that it's not a person writing the liveblog. This can be fixed by making multiple presets for messages and randomizing the message that gets published in the liveblog.

We should also take tone of voice into account. Let's say there's a tense race for p1 going on, then you don't want a more exuberant message instead if someone in the back of the grid overtakes some other driver.

Meeting with Jan

In the last meeting we agreed that I would make an overview of all data available from the FIA API and share it with Ruud and Jan so they could take a look at it and let me know what data is interesting to automatically visualize in the eventfeed. It is now confirmed that we're not going to visualize the exact position data as it's too obvious we're taking this data from FIA. Now this doesn't mean that we're not going to use this data. This data can still be used to mark the position of events happening on the track. If the FIA starts asking questions, we can simply say that we have someone clicking on the track to indicate where this event happened.

I also discussed the CMS of the RN365 website that's used to publish messages in the liveblog. This CMS is a custom built by TDE. This means that it's also easily customizable to fit a user-friendly interface for the process of semi-automating the messages in the liveblog. What this user interface will look like will still have to be investigated and designed.

Conclusion

The idea is developed into a rapid prototype that's been tested, iterated and reviewed by a strategy expert. I'm now sure that the visualization tool with the 3D simulation and the automated eventfeed will provide a solution to the problem statement. Also the general layout of the tool has been tested and improved and I'm convinced that a vertical layout for the eventfeed works best.

The meetings with Ruud and Jan from RN365 resulted in a couple of changes for the concept. We're not going to visualize exact car positions anymore, but instead the positions of events happening like overtakes. The automated liveblog also won't be fully automated, but semi-automated, as RN365 wants control of what messages are sent to the liveblog. This means that additional research needs to extend the concept for the CMS for RN365 and the user interface for the editors that are in charge of keeping the liveblog updated.

Summary

The idea that originated in the focusgroup discussion needs to be validated and adjusted where necessary. I used several research methods to accomplish this.

First, I conducted an expert interview with an expert on strategy and concepting. This expert was very pleased about the combination of an eventfeed with a visual representation in a Formula 1 race and he didn't have any remarks on the concept itself. However, he indicated that it's important that the visuals are accurate. If they aren't accurate enough, it makes more sense to make a 2D variant instead. I also have to start early with the implementation of the corporate branding in the design to avoid having to make last minute changes in the layout of the tool.

Next, I realized an iteration on the layout by making some early wireframes. I tested these wireframes in combination with some interview questions about the idea and concluded that the concept works, but the layout needs some adjustments. Therefore, I added a clear-all-filters button to quickly get rid of all filters. I also wasn't sure if a horizontal or a vertical eventfeed would work best, so I made a new version to test both. Turns out a vertical eventfeed works best and it needs to be sorted by newest item first.

Later, I validated the concept with two interviews with RN365. One with Ruud and Jan, and an additional interview with Jan only. These interviews made quite a few changes to the concept. First, the eventfeed is going to replace the current liveblog completely. Also, the liveblog will be semi-automated instead of fully automated, as RN365 indicated that they want to have control over the items sent to the liveblog to maybe change the tone of voice etc. This requires additional research and concepting on the CMS for RN365. Also the 3D visualization will be changed. It's too risky to use position data of the cars as it will be too obvious that we're using data from the FIA API. This will be replaced by a feature where events will be positioned as pins on the track, as

we could easily argue that this position was entered manually in the case FIA starts asking questions about our data source.

Learning Outcome Clarification

- Learning Outcome 1: Professional Duties
- Learning Outcome 2: Situation-Orientation
- Learning Outcome 3: Future-Oriented Organisation
- Learning Outcome 4: Investigative Problem Solving

This deliverable is a professional duty on a bachelor level in the activities of Analysis, Advice, Design and Realize as I analyzed for improvements on the concept, advised on improvements and adjustments to be made and I designed and realized a functional rapid prototype which is a professional product that is in line with the IT-area User Interaction. Therefore, Learning Outcome 1: Professional Duties applies.

This deliverable is relevant and valuable as it resulted in valuable improvements on the concept. Therefore, Learning Outcome 2: Situation-Orientation applies.

This deliverable is an effective approach to improve and validate the concept. I used a variety of research strategies, methods and activities to find justified answers to my questions. Therefore, Learning Outcome 4: Investigative Problem Solving applies.

I took the lead in my project for this deliverable as I independently planned meetings with the stakeholder. Therefore, Learning Outcome 5: Personal Leadership applies.

My communication has the right impact and execution as I communicated appropriately with the strategy and concepting expert, test candidates and stakeholder. Therefore, Learning Outcome 6: Targeted Interaction applies.