### \* Flightradar24 Web Bookmarks \*

The process: wireframes, prototypes, user testing, hand-off, and implementation



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# 1.0\_Improving Existing Bookmarks

After implementing the "Widgets" functionality on the site, we knew we had to take advantage of it and add a more valuable and powerful bookmark capability. What we had at the time was a really poor and old tool that only allowed users to save locations on the map. They weren't able to save flights, airports, or aircraft. After some initial ideation and back-and-forth communication between stakeholders, we got to work.

Bookmarks	×
Africa	
Asia	
Europe	
North America	
Oceania	
South America	

The original bookmarks panel looked like this. It only allowed users to save locations on the map (including zoom and map type).





For years, many people at the company had wanted to introduce a more complete bookmarking functionality on the site. After the Widgets project was implemented, we knew it was the perfect time to start working on a new bookmarks feature.





The idea of placing a star on top of the info panels had already been discussed before. We decided to follow this idea and make the star icon the primary visual representation of bookmarks.

### 2.0\_Initial Concept and Requirements

The first part of the actual design work on this project was primarily based on what we already had with the widgets (structurally speaking). We knew that the bookmarks widget would follow the visual style applied to the other widgets. The key was implementing a much more complex process into this new bookmarks widget. The users would have to add a bookmark using the widget or by clicking the star icon on any of the flight/airport panels.



Some rough sketches that illustrate the experience of adding a bookmark using a search layer in the widget.



I usually sketch on paper to quickly visualize an idea or define specific interactions. I also find it really useful to write down quick specifications regarding the measurements of some elements on paper.

BREAKPRINTS tord -> TARTE 1280 -STABLET MENU HAMB OPTION 1 - FULL MY OVERLAY INTPOQUENTS NEW ! BOOKMARKS -SWZ Kn-> Ð -MOT->

I also sketched some ideas for the bookmarks widget onboarding. As this was an essential new feature on the site, we knew an introduction to the widget would be necessary to draw attention to it.

### 2.0\_Inital Concepts and Requirements

Refining the designs and creating the requirements was the next step. This demanded a lot of communication between the design team, the project manager, and the development teams. The objective was to consider as many scenarios as possible and be very detailed. There were slight changes at the later stages of the project.



We use Confluence to document the requirements of every project. We connect these with the actual development/design tickets that live in JIRA.



This was the first iteration of the visual design for the widget. We used these designs to create the prototype that we tested on users (see next section). The main idea behind these designs was to keep consistency with the widget style while also defining an easy-to-understand experience for the user.







Mdget-bookmarks-airport-add., 76. Widget-bookmarks-airport-add., 76. Widget-bookmarks-airport-add., 76. Widget-bookmarks-airport-ad

As you can see, many elements of this first iteration are tiny (especially the font sizes). Feedback between design team members was crucial to detect and fix these things. We strive to create a good product usable for a broad audience.

## 3.0\_Prototyping and User Testing

One of the critical stages of the product development cycle is prototyping and testing on real users. We try to create prototypes relevant to the type of project we are working on. In this case, we knew that a prototype that reflected the main functionalities of the feature, such as adding and removing bookmarks, was needed. Another vital element of the prototypes was to define the interactions within the widget (scrolling, tabs, search&add).





A high-fidelity prototype was created using ProtoPie, our preferred tool. We had to make a couple of different prototypes for different testing scenarios, such as for users with and without an active subscription. I personally like ProtoPie's capacity to create complex prototypes without any coding. It allows me to mix complicated flows and animations. It's also effortless to share the prototypes on the cloud, and it's pretty compatible with our testing tools.

### \*

### Bookmarks Widget tests

### Scenario 1 - Basic user - upsell experience

You are a Basic user and have a free account at Flightrader24. A new feature at Flightrader24 is the Widget where users can pin items of interest to their map homepage. One such item is "Bookmarks". On a desktop prototype of the "Maps" area of the site, you'll be asked a series of tasks around the Bookmarks Widget.

This is a prototype and so not all interactions with the site are possible. You can see what is interactive by clicking anywhere on the prototype and viewing the "hot spots" that appear highlighted. For some tasks where typing is required, just type any letters and pre-filled content will appear.

As you perform the tasks, please speak aloud and explain what you're doing. If you feel unsure about how to proceed, it's okey to say so.

### Prototype link

https://cio.ut.protopia.io/p/itb49bd3587ui=fake&mockup=true&touchHint=true&scaleToFit=fake e&cursorType=tomow

### Task one

You are on the main map page of Flightradar24 and wish to add an sirport to your Bookmarks Widget. Try to add an airport.

### Task two

You would like to add a second airport to the Bookmarks Widget. Select the second airport and try to add this. Follow-up question: what happened? Why were you not able to add a second. another airport to Bookmarks?

### Task three

You would like to delete a bookmarked airport from your widget. There are two ways you can do this. Please explore both ways.

After the prototypes were done, we drafted the test scenarios and questions. There were two scenarios we wanted to test: subscribed and unsubscribed users.

### 3.0\_Prototyping and User Testing

The tests were done using the Userlytics platform. The main objective of the test was to gain valuable feedback from real users regarding the experience of using the bookmarks feature. We conducted tests with 4 different users from various backgrounds and different levels of engagement with the product. In the end, we got fascinating insights that led us to make some modifications to the experience and the designs.



Using the unmoderated testing method allows us to gain insights into user behavior. It also allows users to talk freely about what they think about the project without the pressure of having someone looking over their shoulders.

### Recommendations

### Actionabl

- Have the trash can icon fixed and not only appearing when the user hovers over the bookmark · The key area of confusion was users not reading the instructions on the add airport section. On the
- instructions section (below) show the star icon in the text or make it clearer somehow. (0.3056 Pablo teta) has increased the text)



· Consider adding double click to add upon selection for airports appearing in search.

### Something to try (testing)

- · Given the friction by not displaying pricing on the overlay, a potential experiment might be to add "Upprade from as little as \$1.49" into the text to increase click-throughs.
- better before actually wanting to upgrade because of it.

### Business user tests

### C Flightradar24 Bookmarks Widget Test existing user test | Userlytics

### Participant 1 Blair:

### Notes:

 Interestingly found the difference between adding a flight and adding an aircraft confusing. User clicked on flight and went to click on bookmark star at the top of the overlay to add flight. User eventually saw the empty star next to the aircraft further down but noted that it is more difficult to see the outline of the star on a light grey background.

All of the observations and insights gained from the tests were documented in Confluence. General notes, as well as actionable improvements, were included in the documentation. Having test results written down is an excellent way of keeping track of mistakes that we've made in the past. Going back to these documents is always helpful when working on new projects.



· Would consider a higher number of bookmarks for basic users in order to understand the feature

# 4.0\_Refining Designs and Hand-off

After digesting the test results and discussing them with the relevant stakeholders, we applied what we learned to the designs. Using XD as our primary design tool, we can create high-quality designs easily exported to Zeplin, our primary hand-off tool for developers. The main changes affected the "search and add" functionality within the widget. We also had to adapt some UI elements that were confusing to the users.



XD is our primary design tool. It is light and easy to use. Collaboration in small teams is effective with their cloud libraries. What you see here is the "search and add bookmark" experience within the widget and the main star component on the flight info panel.



The star icon is the main visual representation of bookmarks. It is placed on the top right corner of the flight and airport info panels. In the particular case of the flight info panel, clicking the star opens an extra layer, which allows the user to choose if they want to add the flight and/or the aircraft (if both are available).





We use the Zeplin integration with XD to export the designs. We then add annotations so that developers are aware of functional requirements and other behaviors. We make sure they can also access complimentary material such as prototypes, animations, and images.

### 5.0\_Development and Testing

Development for this project took approximately 4 months. There were a LOT of feedback rounds between the web and design teams. This is one of the main areas of improvement at FR24. Although we try our best to have a smooth hand-off with developers, devs still seem to miss many things. This means that a lot of visual feedback is required from our side.



Align flight item top row so that it matches the distance implemented correctly in the aircraft items

As a product designer, it is part of my job to ensure that designs are "pixel-perfect." This means thorough testing and clear visual feedback. Sometimes providing feedback can be really frustrating. However, being empathic toward the developers and understanding that they don't have the same perspective or background as I do, helps in being patient and available. I try my best to provide extra material if needed for the developers to get the job done effectively.

Error text should be left-aligned with the

**Vircraft** registration

SSSSXX

Add an aircraft to Bookmarks!

Clicking inactive button when invalid input or

less characters provides error message "Introduce at least 4 characters" or "Incorrect

or non-existing registration"

field text

nactive field state

following parameters

Inside 1px border

Bg color #DE5656

Status bar color

should be #de5656

Placeholder copy

and it should display

should have the

see Zeplin):

276 x 50px

20% opacity

at +1px X axis

color #e5e5e5

Vd1d0d0



### Test cases

Error message font

weight 600, 12pt

should be Open Sans

Respect padding

2px between field

and error message

8px between error

message and button

separations:

Case	Steps	Expected behaviour
Bookmark promo for non logged user when pressing on bookmarks widget	As a non logged user: 1. Go to widgets. 2. Press on bookmarks widget. 3. Press on a button to Learn more about subscriptions. 4. Get back to a prome for non logged user and press on a button to create account. 5. Get back to a prome for a non logged user and press on a link to Log in.	As a non logged user: 1. Verify if the bookmarks widget is locked. 2. Verify if the promo for bookmarks is shown with an option to create account. 3. Verify if you're redirected to a premium page and bookmarks widget option is bold. 4. Verify if you're redirected to create account page. 5. Verify if you're directed to a full login page.
Bookmark promo for non logged user when pressing on star icons	As a non logged user: 1. Press on aircraft icon 2. Press on star icons available there 3. Close the panel and press on airport pin 4. Press on star icons available	As a non logged user: 1. Verify if aircraft panel is opened and it contains star- icons with lock 2. Verify if the promo for bookmarks widget is presented

Before launching, one of the last steps was testing the feature in a beta environment. The QA team sets up test tasks, and many stakeholders take part in the test sessions to find outstanding issues that may block the release. In the case of bookmarks, we conducted multiple test sessions where we found several problems that had to be fixed on time.

### 6.0\_Release and Future Steps

Once we released, we made sure to keep an eye on the platform and user comments to detect if everything was working as expected. We are constantly monitoring for LIVE user feedback to use it and apply it to the product if need be. For the bookmarks release, we also created a small onboarding experience to announce the addition of this feature to the site. Future steps include adding the bookmarking ability to search and developing the bookmark feature on mobile apps.





+ Add bookmark



items to your personal widget.

her trial can only be used once. Risk here: Cancel anytime. See, all sudscription, aliants

The onboarding tooltip for users that had widgets activated looked like this. A noninvasive tooltip describing the feature in a few words. Bookmarks are a "paid" feature, meaning that users must have an active subscription to enjoy the full functionality. Users with a Basic account can add only 1 bookmark to get a taste of the experience. For them to add more, they have to create a subscription. Each subscription level has a different amount of max bookmarks.





Adding the ability to add a bookmark in the search results is one of the next things to be developed. We are also adding the bookmark functionality to the mobile apps. It will be a cross-platform experience, meaning that users will see the same bookmarks on the apps and the website.