# Non-airport search UX

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| **Client** | RentalCars.com |
| **Date** | 18th February 2019 |
| **Platform** | Desktop web |
| **Goal** | Improve conversion rate by at least 5% for users in non-airport sales funnel. |
| **Responsibilities** | Discovery, design and testing of suitable UI component to capture precise location data and present this to the user. |
| **UX methods used** | Sketching, competitor research, visual design, prototyping, user testing, |
| **Link to final project** | www.rentalcars.com |
| **Team members** | John Aspinall - UX Designer<br>Khalid Lee Conway - Product Owner<br>Multiple people - Developers |

## The client

Rentalcars.com is a car rental agency which allows a user to book a hire car from numerous partner branches located throughout the world. The branches are primarily located near airports and this is where users generally pick-up and drop-off their hire cars.

## The problem

There are occasions, however, when the user would search to pick-up the car from non-airport locations, such as a city e.g. London, Manchester, etc. On these occasions the user would mostly type a city name as their pick up point.

This caused a problem for both the user and the client as RentalCars were not able to present the most relevant search results, as they did not know exactly where in the city the user wanted to pick-up the car from. There was a hypothesis from the business that this was the reason conversion rates were significantly lower than 'airport' searching users.

## My role & responsibilities

My goal was to deliver a UX change to the main car search component in order to encourage the user to enter a precise pickup location when performing a “non-airport search” with these specific goals and requirements:

1. Improve conversion rates by at least 5% for users in this sales funnel.
2. The change to the component had to be *only* visible to users who performed a non-airport search and must not impact the existing sales funnel in any way.
3. The work needed be completed in a short time frame, so had to be straightforward to implement and involve minimal additional development work.
4. Collaborate with product development and engineering teams to research, design and implement this project.

# DISCOVERY

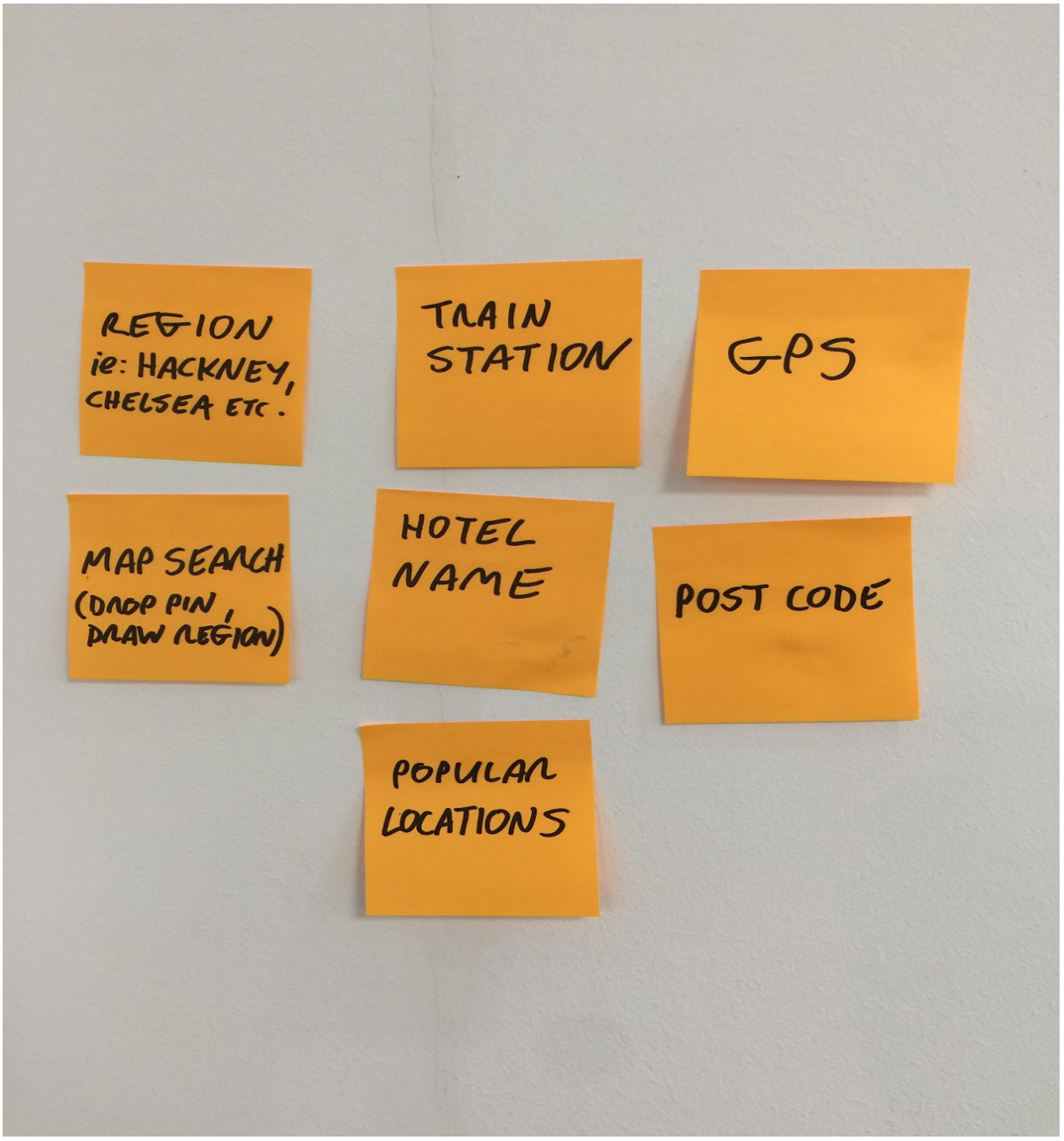
## Competitor research

To kick start the ideation process, I performed a non-airport search on main competitors sites and took relevant screenshots from each site.

## Card Sorting

I compiled the competitor research list, along with some of my own ideas, into a short list of potential approaches and wrote each approach onto a post-it notes and stuck them on the wall in a discovery meeting with stakeholders and developers.

I did this to give the ideas visibility and to encourage discussion on the most suitable solution(s) in the meetings.  In the meeting, I described each approach and the merits of each and the stakeholders gave their feedback and opinions on each approach.  I then ranked each approach as the room gave its opinions.



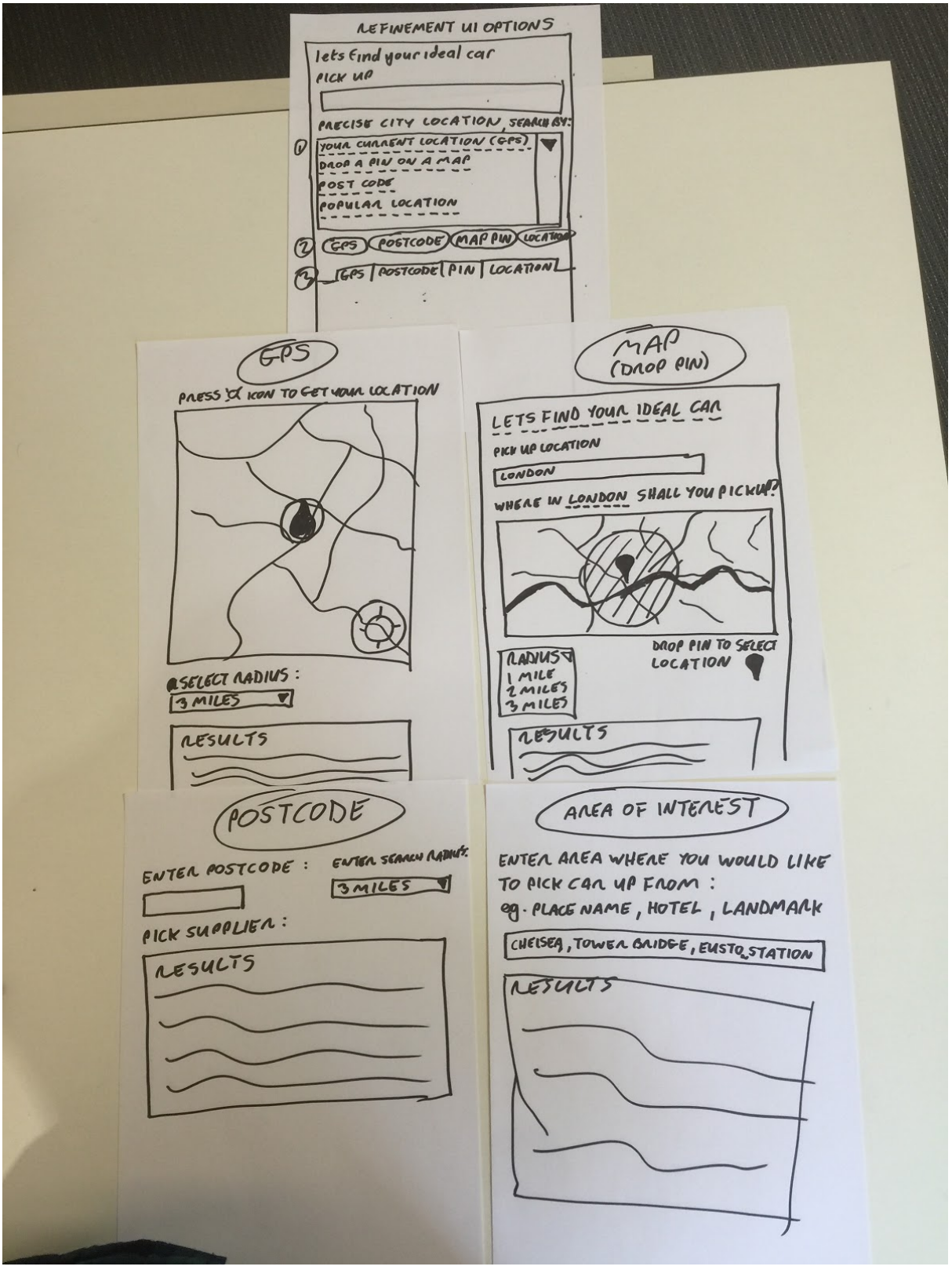

*[Figure 1: Card sort]*

## Wireframes & Sketching

After distilling the customer research and shortlisting some approaches, I created low-fidelity, hand sketched wireframes in order to iterate through design options quickly.  Working with the product manager, we used the wireframes to discuss product strategy.

I also felt I needed to clarify how straightforward and minimal the solution needs to be.  The competitor research gleaned some really good solutions, but I felt they would be quite complex to implement and develop given the time and resource constraints.

I held a brief meeting with the product owner and developer to present the low-fidelity wireframes which I used as starting point to discuss the most suitable option to solve the problem.




*[Figure 2: Sketched wireframes for potential solutions]*

Following review of the wireframes, it was agreed that we go with the following solution:

- Display a secondary search input text field (only for users in this type of search funnel), below the primary search field, called '**tailor pick-up point'** which would only display when the user entered a non-airport pick-up location.
- This field would then allow the user to perform an auto-completed search term which contains major landmarks, districts and buildings (such as train stations) in order for them to provide their exact pick-up point.

We chose this solution to take to design and prototype for the reasons:

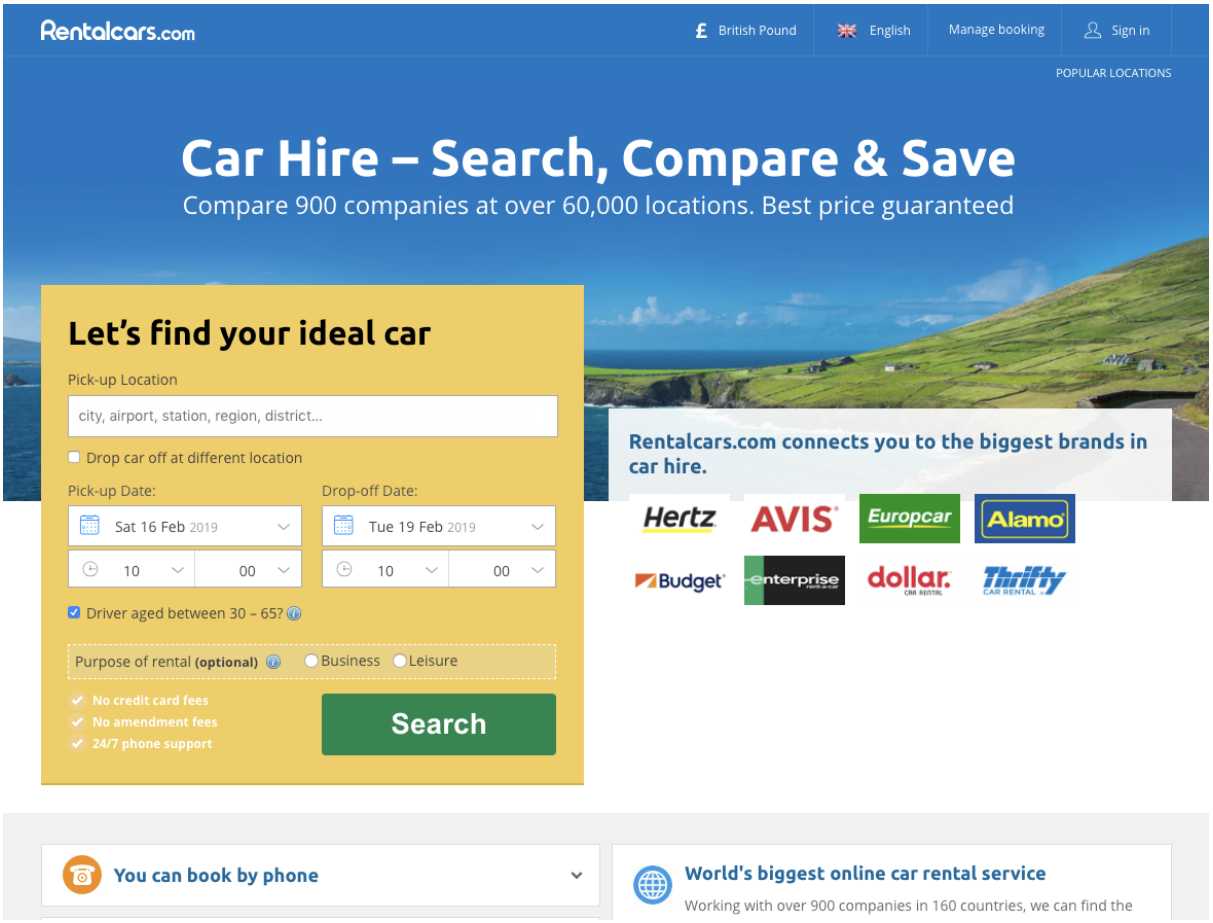
1. We already had this type of auto-complete meta data available (such as train station, district, etc) in the search results algorithm.
2. We felt that the user wouldn't know that you can search by this meta data type, so adding a specific search field would encourage to do so.
3. We felt this was most suitable solution to implement within the strict time constraints of the project.
4. I had initially wanted to implement a GPS based location solution, but this would have involved a lot of additional development work, time and budget. The user would also have to specifically allow the browser to access their GPS location, which may have caused issues.

# DESIGN

## Visual Design

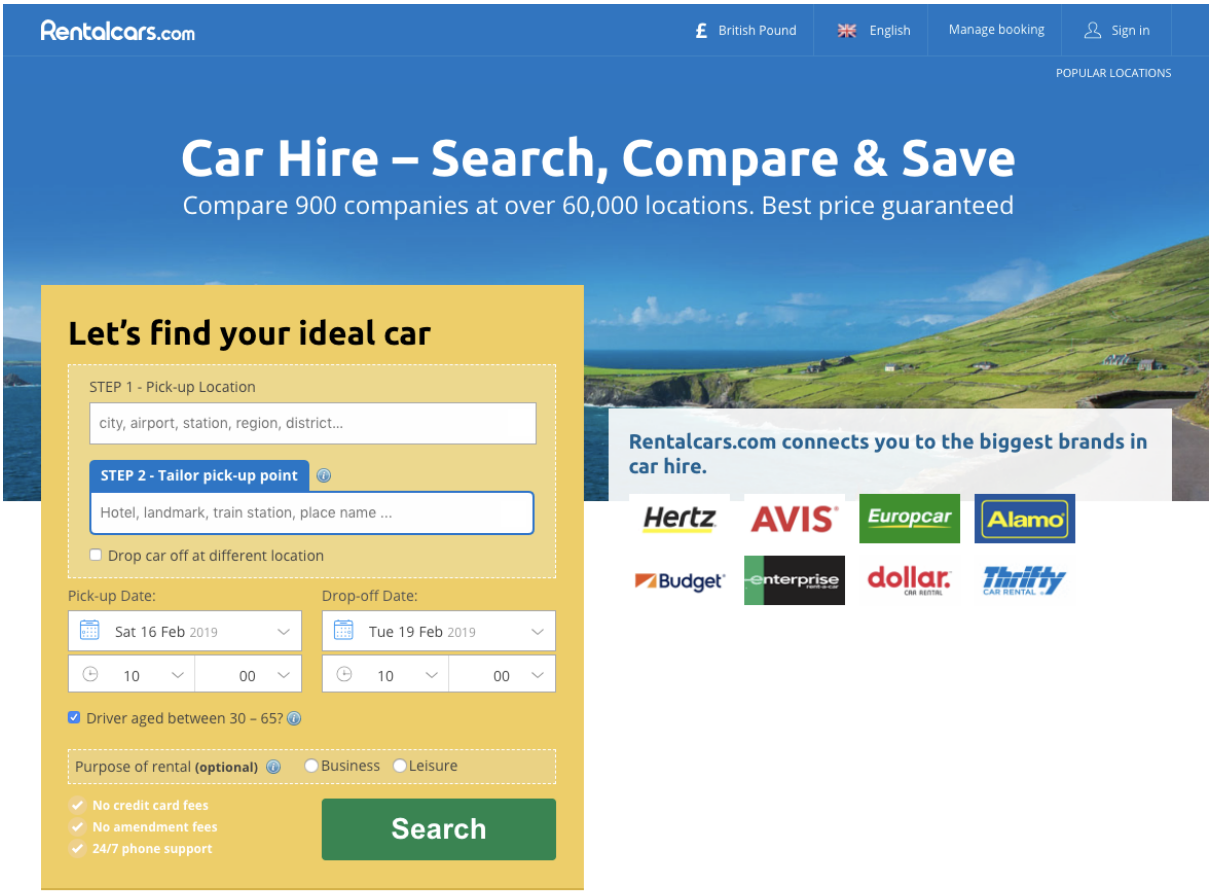
Following agreement on which approach to take, I designed high fidelity screen mockups with, two variations on the style of the new search field. I also designed a screen for each stage in the search journey of the new interface.

The image below *[Figure 3]* was the search component in its original state:



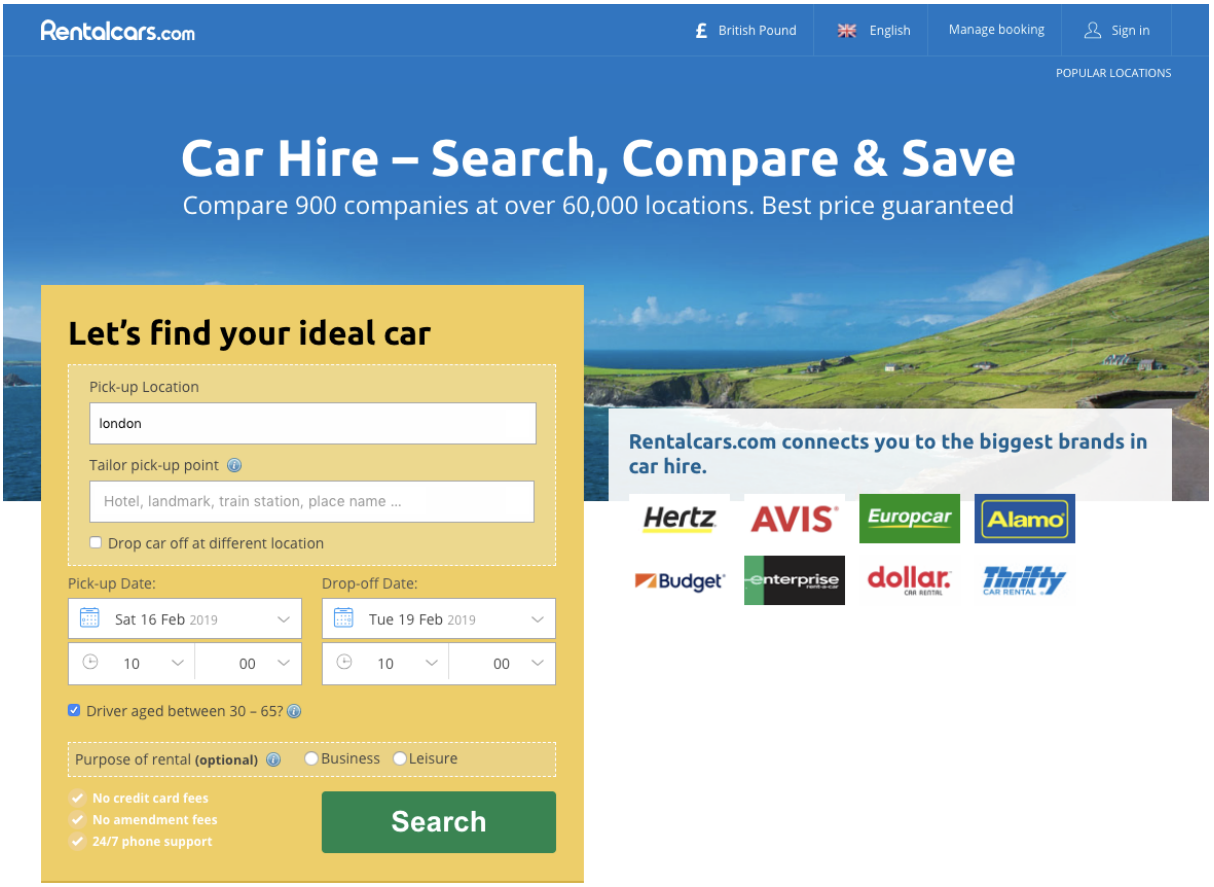

*[Figure 3: Current search component]*

In my first variation *[figure 4]* below, I added a blue border and step tab around a new secondary search field called "tailor pick-up point". The purpose of this was to visually draw the users eye to the field to encourage them to complete it. Although the field was not mandatory, a project goal was to encourage interaction with this field and obtain accurate pick-up location data.




*[Figure 4: Design solution 1]*

The second variation *[Figure 5]* below featured the secondary field in a more subtle style which mirrored the design pattern of the existing search field.




*[Figure 5: Design solution 2]*

I visually grouped both the search fields (on both solutions) with an existing dotted border style which was already present on the page to. This was to ensure design consistency and not put an additional cognitive load on the user.

I also added the common 'tool tip' icon next to the form label with an information panel appearing on hover/click, the purpose of which to explain what the function of this field was to the user. I felt this would be quite important to include as it may not be obvious what the purpose of this field was.

# Prototype

I produced two high fidelity prototypes in order to illustrate the user journey to stakeholders and to facilitate and validate the solutions in a user testing session.

One prototype had the blue border and steps *[Figure 4]* and the other without the blue border *[Figure 5].* Included below is link to the prototype based on *[Figure 4]*, the design with the blue border and tab around the secondary search field

You can view the prototype by clicking this link.

# TESTING

## User Testing

I had to gleen usability insights in order to validate that the proposed solution would achieve the project goal.  To achieve this, I set up a user testing session using the 'What users do' online platform.

To facilitate the session, I wrote two user personas and gave each group a specific goal.

- Group A - I assigned their pick-up point as 'Euston train station'.
- Group B - I assigned their pick-up point as 'London'.

I created these two groups as I wanted to gain insights into how users in Group B would behave when they only know the name of the city as a pick-up point.  If a user has zero local knowledge of a city, how would they know were exactly to pick-up the car?  What would they do?

I ran the test on six people, three of which adopted persona 'A' group, and the other three persona 'B'.

### Personas

- Persona A - 'Dave' was a desktop user who's search goal was to get a rental  'London'
- Persona B - 'Claire' was a desktop user who knew they wanted to specifically pick up at 'London Euston train station'.

### User testing results & observations

1. **Persona B** - 'Euston' pick-up:
    - Started typing in London in the primary search field to begin with.
    - Then started typing in Euston in the secondary field. Thought it was obvious that was what you were meant to do.
    - Found the interface easy to use.

- When I asked; “If you didn't know you had to pick up at Euston and just wanted the generic location in London”, she said she didn't know what to do and just said, “Surely I know where I am picking up from?”.
- Did not cross mind to just hit search.

2. **Persona A** - ‘London’ pick-up:
    - talked through, said he would choose london and then did so
    - When the second box type came in he said he would just think of place in London that is central
    - Did not cross his mind to just hit search
    - When seeing the multiple choices for Euston on the interface, he thought customers could get confused and choose the wrong one.

3. **Persona B** - ‘Euston’ pick-up:
    - Starting typing - Said he would type in Euston immediately. _ prototype goes straight to London generic
    - When second box came up - said he would search for euston immediately.
    - When asked, if you didn't know where in london to pick up - he said he would find somewhere in london he wanted to pick up
    - Did not think to just hit search and search for all of london

4. **Persona A** - ‘London’ pick-up:
    - Started to type in London
    - When the second box appeared, she said she would want to type in her hotel or where it is she is staying
    - She said it wasn't too obvious what it is she needed to do and would prefer to see a drop down list of locations
    - She said she would check google maps beforehand if there was a drop down list and didn't know what the locations are
    - Didn't think to just hit search and search for all of london

5. **Persona B** - ‘Euston’ pick-up:
    - Started typing, said he would have typed euston station immediately, proto takes you to london
    - When the second box appeared he said he would type in Euston
    - From the choices that came, he said it wasn't obvious that euston was the station on not a town. (he missed the label station)
    - When asked, if he didnt know where in london he said he didn't know what he would do.

6. **Persona A** - ‘London’ pick-up:
    - Started to type in London - when the options appeared he said he would have chosen victoria station from the suggestions because that's something he knows.
    - Second box appeared - he thought he lost his options - seemed really puzzled about what to do
    - After some questions said he would have typed in victoria stations cos thats where he knows.
    - Then hits search
    - Didn't think it was clear what he had to do until he read the tool tip.
    - Didn't think to just hit search.

# Testing insights

The main take away points from the user testing were:

- Everyone felt compelled to enter something in the ‘tailor pick-up point’ box and not one person thought to just hit search and see everything in London.
- Only one person went to type ‘Euston’ in the primary search field.
- A couple of people seem confused by the secondary search field until they clicked the help icon.
- The majority of users reported that the they thought the secondary field was mandatory, particularly in the design variation where the field had a blue border and tab around it.

The insights obtained from the usability testing helped in selecting a design option. The product owner and I decided to select the second design option, without the blue borer and tab.  The user feedback on this option was that the blue border and tab made it appear as if the field was mandatory and this was not the case, the field was optional.  We didn’t want user dropping out of the funnel at this early stage because of this so decided to drop it.

We all agreed another prototype iteration was unnecessary and would be a waste of time and therefore moved forward with design option two *[Figure 5]* into development.

# Experiment

When development and QA was complete, the new search component was initially ran in production as A/B experiment where 50% of users performing the non-airport search got the original search component and the other 50% got the new secondary search field.  The experiment ran for four weeks and the results can be found in the ‘result’ section at the end of this document.

# Learnings

- It’s very easy to get married to a design solution and adopt a blinkered “its my baby” attitude.  Just because an interaction pattern is obvious to you and those around you, it may not be to the end user and that is ultimately what can make or break a projects success. You must always test your assumptions with users in order to validate your hypothesis, no matter how ‘right’ you think you are!
- I learned that in a project with a short time frame,  that it is best to really nail down exactly what the stakeholder requires.  It was apparent the stakeholder had a specific idea of how to solve the problem and I could have saved some research time had this been more accurately communicated to me.  I will double and treble check project requirements of this ilk in the future!
- During the user research process, I was surprised to learn that users thought the new secondary field was mandatory, as is it did have an asterix attached to it - as is the usual design pattern to indicate this. Again, never assume anything, just because I know an element is a ‘globally recognised design pattern’, doesn’t mean that end users think and know this.
- The project had many challenges, but the most difficult piece was communicating with the remote offshore development team in Minsk as they had broken English and sometimes conversations were difficult when spoken. Thankfully we were able to get everyone on Slack, which made back-and-forth changes and conversations much more fluid.
- While the whole project was a great learning experience, I especially enjoyed seeing how users interaction with my designs, even though they did not behave exactly as I though they might!

## The Result

Before we turned on the experiment, we measured the conversion rate of each user who went on to book a car who performed a non-airport location search. When we turned the experiment on, we saw **conversion rates jump up by 8%** over a two week period of testing. We also saw engagement and the number of interactions on each screen - increase.