# Team Report Challenge 2 – Mirabeau Design Challenge

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## Introduction

During the second part of this course former students of the ID faculty act as industry liaisons by sharing their work, their perspective on UX and the vision of the companies they are working for, including the position of UX in these companies. This all will contribute to our growing understanding of UX and how UX is related to business models. The possibility to ask these designers about their experiences offers us the opportunity to gain more insights in how UX is used in different types of companies.

Each company introduced a UX challenge. Every week, four student teams worked on a challenge which they discussed during the lecture, the other students were the audience and participated actively. The theoretical knowledge of the first three weeks of this course were used to strengthen the design choices and arguments. After the debate, all the groups got feedback on the design case they presented from the audience, the lecturers and the industry liaison. This feedback was be taken into account and discussed in this report. Besides applying the theoretical knowledge of the past few weeks in this design case, it is instructive to practice our debate skills and negotiate within a real design case. Developing these skills will be relevant throughout our entire career.

This project group was assigned to the first challenge, the redesign of the search results page of booking.com with only space for four improvements left before the launch. Two teams, both with four improvements which are provided by Mirabeau, will discuss and negotiate which improvements will make it to the final four improvements. The starting point is to offer the user the best user experience which can be achieved by our improvements. We will show, discuss and reflect upon our process, design choices, approach during the debate and the received feedback. Besides that, we will discuss the differences between our challenges and the other two challenges.

## Target Challenge

*Preparation*

At the start of this challenge we first formulated, compared and analysed our definitions of UX design and interaction design. See our definition in the text block on the next page.

**Our UX/IxD Definition**

*"For us, User Experience (UX) design is a personal experience with a product, service or system which evokes certain emotions and feelings. UX is about the experience before, during and after the interaction with a product, service or system. It can be influenced by the product/service, the user itself and the context of usage. On the other hand, Interaction Design (IxD) is only about the moment of interaction itself and not about the moment before and after the interaction. It focuses on the direct and momentary interaction between the user and the interactive product/service and therefore influences the UX (positive or negative); as a result it can be seen as a subset/part of UX."*

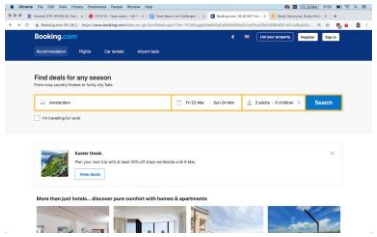


**Figure 1.** Booking.com landing page (provided by Emar Vegt).

After an aligned vision on UX had been reached, we started reviewing the design briefing provided by Mirabeau. We started by exploring the design context and its stakeholders, and made ourselves familiar with the client's vision. Booking.com wishes to *"empower people to experience the world"* [2] by developing technology that makes this easily accessible.

We performed a joint evaluation session of the Booking.com website, where we imagined ourselves to be the end-users — visiting the site with the clear goal of finding a sleeping accommodation for all five members in a set location. Afterwards, we reflected on how we perceived the user experience. In this reflection, we used themes in the previously reviewed literature:

- Need-fulfilment and meaning-making [3]: understanding how Booking.com fulfils the end-users' *'why-goals'*;
- Pleasurable experiences [4]: evaluating the physio-pleasure, socio-pleasure, psycho-pleasure and ideo-pleasure generated by the website;
- *Maximizing* versus *Satisficing* [11]: supporting both ends of the user spectrum.
- The impact of context, user's state and system properties on the perceived user experience [10].

*Evaluation — Findings*

Upon landing on the Booking.com page (see Figure 1), we perceived it as pleasant: the page is has a calm, minimal aesthetic, and allows us to easily complete our user goals by offering only the options that matter to us. Elements that were displayed in this page were a search bar that requested the user to input information including the location, check-in and check-out dates and the amount of visitors. However, upon submitting our request for relevant information, we felt overwhelmed by the influx of information. Breaking down the essential features, we have the result cards (1), sorting options (2), search input (3), map view (4), filters (5) and suggestions (6).

If we narrow our scope to the most important component, the result cards (see Figure 2), we see even more information: name, location, imagery, rating, reviews, and other additional data, displayed in a broad range of colours. As a result, we felt disoriented. All the extra options presented to us had distracted us from working towards our initial goal, finding a suitable place to spend the night in Amsterdam.

Carrying on our user journey, we viewed the accommodations available at one location. Once more, we perceived an overload of cognitive stimuli. In the 'booking availability' component, we have multitudes of (important) details in various colours, very closely positioned together. In conclusion, we experienced some highs and some lows during our audit, which helped us in prioritising, discussed in the next section.

*Prioritisation of Elements*

Our challenge included prioritising four out of eight improvements that could be made to the Booking.com website before the site launches in Australia and Singapore. Both our team, as well as the opposing team, were assigned four suggestions for improvement, shown in Figure 3 below. In order to prioritise these arguments, we compared the improvements indicated by our team with our own findings. We mainly focused on the desirability of the improvements, in order to make the interaction for the user as pleasant as possible. Additionally, we reviewed the feasibility and viability of these improvements.

First of all we found that the current design of the booking tool and the result card caused a cognitive overload among its users, because of the amount of information they contained. The page has a very 'in-your-face', 'hectic' feeling, which gave us a feeling of unease when we tried to reach our intended user goals. The perceived chaotic and hectic design has a negative impact on the state of the user and therefore on the UX. From a commercial point of view however, we

**Figure 2.** Booking.com search result page (Provided by Emar Vegt).

| ***Suggestions by our team*** |
|---|
| Redesign the booking tool |
| Redesign the results card |
| Show the most popular filters |
| Show the preview map with dots |

| ***Suggestions by the other team*** |
|---|
| Conduct qualitative interviews about page expectations |
| Test/validate with color blind people |
| Unify hover designs |
| Redesign nearby location suggestion block |

**Figure 3.** Overview of potential improvements to be made to Booking.com.

believe that we understand the justification for the current design. A 2015 study by Darmstadt University shows that *Purchase Pressure Cues* and *Limited Product Availability* can be used [1] and are often used to drive commercial conversion. This means that from a commercial point of view, the website is designed to do what it should do: boost sales. Yet this is not user-friendly and does not fit in with Booking.com's vision of investing in digital technology that helps remove friction from travel, as the perceived cognitive overload certainly does not do so. From a user experience perspective, redesigning the results cards should be our first priority, as it is a core part of the service. Changing this tool will have a considerable impact on the user experience. Changing the booking tool is also important, but will only be introduced later in the user's choice process, which in our opinion means that this has less priority. Changing the result cards is therefore on the first place of our list and changing the booking tool is on the fourth place of our list. We believe that both of these adjustments are feasible, as the basis will stay the same, only some of the content will be adjusted.

Furthermore, we found the preview map with dots a very important addition to the website, as the wishes and needs of users when booking a hotel often include the location. We believe that most visitors of the website want to find a location in a safe neighbourhood which is near the things they want to visit. Therefore, we suggest that instead of redirecting the visitors to the current result cards, they should immediately be redirected to the preview map. This preview map will create a context for the information shown on the website and it gives a more elaborate impression of the hotel than just the name and the price. It is feasible to immediately redirect the user to the preview map, as the map is already present in the website, it only needs to be placed in another location.

Our own addition was to add an option to view a random location to find the cheapest option to go on holiday. This feature was based on the assumption that many people don't really care much about the place they are going to. They have a few days off and want to leave for a few days without spending a lot of money. Therefore, an option can be added to Booking.com to view the cheapest options in a specific region, province, continent or world. The cheapest options will appear on those specific dates and from this the customer can decide where he or she wants to go. We expect the design of this tool to be feasible, as all information is already known at Booking.com. Furthermore, Skyscanner has already designed and implemented a similar feature, insinuating that a similar feature is in demand by consumers. For these reasons, we have put this change in second place in the list (see Figure 4).

*Self-assessment and Reflection*

Reflecting on this challenge, we realised that we were too competitive in our approach. Instead of finding a plan to further the company and its stakeholders, we aimed at 'winning' the debate by receiving a maximum amount of points. Both teams were trying to get the arguments they were assigned in the backlog top four. Meanwhile, during our preparation we realised that some of the opponent's improvements would be easier to defend, as they naturally made more sense. In designing for the user experience, insights derived from genuinely interfacing with end-users are of immeasurable worth, yet our suggestions for improvement were merely design-oriented rather than research-oriented activities.

This theme emerged from the final priority list: conducting empathic observations as suggested by the opposing team comfortably took the first place. In retrospect, this makes a lot of sense, as insights drive decision-making in the design process. Nevertheless, we still believe that redesigning some core components of the Booking.com user flows to reduce the cognitive overload should be a priority for improving the experience for end-users. In the debate, our reasoning

1. Redesign the results card
2. ~~Show most popular filters~~ New feature: view random locations to find the cheapest option for holidays
3. Show preview map with dots
4. Redesign the booking tool
5. Unify hover designs
6. Redesign nearby location map
7. Test/validate with color blind people
8. Conduct qualitative interviews about page expectations

**Figure 4.** Our preferred backlog order, presented in the debate.

resonated with the audience, suggesting that others share our conclusions on the current user experience. All in all, we feel we were able to reach a good compromise with the opposing team.

Having experienced multiple debates on the same topic, we noticed that they never reach the exact same conclusion. Debates unfold based on which arguments are presented first, and how well they are presented. Additionally, debates are held among groups of stakeholders with differing needs. As such, it can occur that some voices are represented more, and others less. We believe that as UX Designers we are responsible for ensuring that the users' needs are met. In achieving this, we should find a good compromise between the different parties. For our challenge, this meant that we had to look beyond desirability as a criterion for arguments. For a company as big as Booking.com, viability and feasibility are extremely important, which was noticeable from the debate's results.

*The real business case*

If this was a real business case, we would focus more on feasibility and viability. In our selection process we did include these two aspects, but since we did not have much information on them, we chose to focus mainly on the desirability in the selection process of the arguments. Furthermore, we would focus less on winning with our own arguments, but instead we should be working together with the other design team and together look at the best arguments. And lastly, we would rearrange the arguments on the backlog. In our challenge we had divided them from most important to least important. But in a real business case we would set up the backlog based on timespan, what must happen first and what can wait.

## The Other Two Challenges

The "Van Berlo case" and the "Philips Design case" were the other two challenges. For the "Van Berlo case", the goal was to formulate 3 UX concepts that describe how the light system in the Willem II passage in Tilburg will behave when a cyclist cycles through the tunnel; taking into 'a feeling of safety at night', 'a transition to another part of the city' and 'a playful connection with other cyclists'. The goal of the "Philips Design case" was to create one concept for a smart changing room while paying attention to three focus points (visualization, behavior and interaction), and to argue whether an Abstract or Virtual nurse would be most appropriate for helping a patient through the process. Evaluating the UX considerations and arguments given in those challenges, we feel that (due to the larger design aspect of these challenges) less in-depth UX arguments concerning more psychological and emotional aspects were considered and more attention was paid to the actual design/concept.

For the "Van Berlo case" we especially missed the support of claims or arguments by literature. The teams tried to explain how the design contributed to the three focus points, but often forgot to explain the 'why'. An argument given by one of the teams was: "The personal guidance by the light-ball contributes to the focus point of 'feeling safe' in the tunnel". However, why does this personal guidance contribute to the feeling of safety? This explanation of the 'why' was an aspect we missed in a lot of arguments. The argument "Illuminating the immediate surrounding makes people feel safer", which was supported by literature that studied the influence of light on the safety-feelings of pedestrians (written by, among others, Anton Haans), was immediately experienced much stronger. Another aspect that missed was the consideration of the possible consequences of design decisions. Design decisions can influence the behavior, emotions and perception of the cyclists, e.g. "Can the unpredictable behavior of the 'dog-blob' cause a frightening experience instead of a comforting experience?" In our opinion, these consequences were not really over thought by the teams, while they play an important role in the UX. Finally, we noticed that during the "Van

Berlo case" a lot of teams only considered the momentary UX of being in the tunnel. The overall experience of approaching it, being there, leaving it, being there with a group and so on was not really discussed. We, as a team, see UX as a holistic story: the experience before, during and after using a system or product. In this challenge, we missed this 'story' of UX. Showing or creating multiple scenarios for one specific tunnel-concept would have been better, for example: someone cycling alone, a group cycling through the tunnel or multiple people in different directions cycling in the tunnel. This would have given more in depth information about what such an experience would have looked like and how it would be perceived by a user.

In contrast, during the "Philips Design case", a lot of groups considered UX as a story. A good example is the app from the last team that introduces the patient to the whole process at home; before visiting the hospital. Being able to experience the scan in a safe environment is something valuable that could really influence the user's state: being more comfortable and relaxed during the scan itself. Here they take the concept of Anticipated UX into account, which will help the patient with the actual experience [10]. For the "Philips Design case", however, we think that there was not sufficient attention paid to two important aspects of UX, namely: the user's state and the context. Patients who need to have an CT/MRI scan come to the hospital in a certain mood: they can be seriously ill, they can be nervous because it is their first time in the scanner etc. These patients might bring a partner with them and have certain needs when they are in the hospital (the context). We felt that the designs/concepts did not always consider this context and state/mood of the user. Although the teams tried to give arguments: "By giving patients the freedom to choose the order of activities, we want them to feel in control and understood", we missed consideration of the needs of the patients: Do patients need and want this freedom? We can imagine that when you are going through such a scan for the first time, it is very comforting if there is someone who tells exactly what to do, to make sure everything is fine. Will the freedom to choose the order of activities maybe then achieve the opposite result? Making patients nervous and insecure? Also in the "Philips Design case" sometimes the 'why' was missing: What did the designers think was the desired experience? And why? Why did they choose for an abstract nurse? At some points a strong argumentation for the Abstract versus the Virtual nurse missed. The examples that were given to go for an abstract nurse where not that supported with any UX related literature.

## General Reflection

Taking a closer look at the three challenges and their characteristics, we notice that they differ from each other in several areas. When evaluating these differences from a more practical perspective, we see a difference in:

1. *The setup of the discussion*: the setup of the first UX challenge was more debate-like, while the setup in the second and third UX challenge was more like a real business case: teams within a company should come to a shared conclusion by negotiating about the best ideas that should be user tested. Due to this setup, teams from the first challenge were trying to contradict each other's UX arguments, even when they made sense.
2. *The design domain*: in the first UX challenge the focus was on the redesign of a website, so in the digital domain. The other two challenges, however, were more focused on specific real life contexts in which a design should be placed. Because of these different domains and contexts, different UX approaches had to be applied.
3. *The challenge*: the assignments of the three UX challenges differed a lot from each other. In the first challenge, teams received four proposals which they had to defend with UX arguments. The second and third challenge paid more attention to the design aspects too

(as discussed in the previous chapter): teams had to come up with their own design proposals.
Reflecting on these differences, we feel that the difference in challenges (third bullet point) had a lot of influence on the quality of the UX arguments and considerations. Even though the first challenge was less interesting from a design perspective, it was a great challenge for learning to apply UX arguments and theories in practice. During this challenge, students were really able to pay a lot of attention to the arguments that were given: referring to a lot of theory to back up arguments. In the challenges where students had to come up with own concepts, we experienced that their UX argumentation was less strong: it was not their focus point per se.

Evaluating the differences from a UX perspective, we see a difference in the UX factors/elements that played an important role in the challenges. In the first UX challenge the usability, expectations and need-fulfillment turned out to be quite important for the UX. The second challenge, from Van Berlo, focused more on the human needs: e.g. safety and relatedness, while also taking into account the needs of the client itself: the municipality in this case. In the third challenge, the context and user's state were more important from a UX perspective: what are the needs of a patients at such a moment? This shows that although all challenges were about UX, UX can really differ in focus points (taking into account emotions, goals, needs or practical aspects).

The differences between the companies Mirabeau, Van Berlo and Philips Design were reflected in their ways of approaching the challenges. As Mirabeau describes it on their website, they strive to "Provide the best possible experience centered around customer needs and behavior. We ensure that content, design, interaction and technology work together seamlessly" [6]. Mirabeau is a company in the digital domain that prefers to talk about Product Experience instead of UX, focusing mostly on multi-modality. As a result they focus more on the product qualities: usability seems to play an important role in their UX Design process. This emphasis on product qualities is in the digital domain more usual [13]. As Emar mentioned "You can't design experiences, because they take place in people's minds. However, you can design a product which generated specific experiences". As a result, Mirabeau's approach to UX is related to interaction design: they create the interfaces and technology that should help bridging the gap between users and their desired action.

While Mirabeau focuses more on the product qualities, the other two companies of Van Berlo and Philips Design have a more holistic perspective on UX [8]. "Empathize" is one of the three main pillars in the design process of Van Berlo. At Van Berlo they see UX as "the value the user receives when he/she uses a product or system for a certain goal"; design is equal to understanding human needs and behavior [12]. For Van Berlo creating meaning is an important part of UX, just like value creation; by immersing themselves in the world of users, they aim at understanding the drivers of users' behavior and the differences in culture. User insights, which are gained through trend research, customer journeys and user testing, are translated into experiences to design for. This approach to UX can be evaluated as human-centered design: going through an iterative process of analyzing user needs, testing prototypes and refining the design [7]. Additional to this human-centered design approach, also elements from empathic design can be found in the approach of Van Berlo: they aim at identifying needs that customers might not recognize themselves [5].

The approach of Philips Design lies more on the cross between empathic design, human-centered design and participatory design: by applying a co-creative and collaborative approach, human-centered solutions are created. Co-creating allows Philips to gain in-depth understanding of people in specific contexts, determining their values and challenges [9]. They apply the design thinking method in combination with

approaches as shadowing and customer journeys, in order to empathize with their users. Shadowing is a typical approach within empathic design, where observation in the customer's own environment is the foundation of the process [5]. In some cases, experts from the field are included in the process to use their knowledge and experience throughout the design process.

The statement about UX that we gave did not change much. But we want to add the quote of Emar Vegt: *"You can't design experiences, because they take place in people's minds. However, you can design a product which generated specific experiences".*
This quote was added to also emphasize with the practical execution of designing for the User Experience.

While reading the papers and learning about 'how to design UX' a lot of theories and aspects that influence the User Experience come to the surface. During the case we tried to go for decisions that were in line with those theories. While preparing the challenge the aspects of usability and desirability were most important to us. During the lectures and the other cases we also realised that the main focus is not always only on these two dimensions. The viability and feasibility were more important than we initially expected in making decisions from a more corporate perspective. A company's desire to make profit will influence the UX decisions. The strategy and approach towards a problem is founded by the time and money available for the project.

## Weekly Logbook

*Week 4, the first week*
In week four this project group directly had their challenge. After the lecture the group directly scheduled a meeting and everybody had to read into the challenge before this meeting. In order to be well prepared for the challenge the group had multiple meetings. During the first meeting the current website and the mission of Booking.com were discussed. With the mission as starting point we created arguments for how our improvements could contribute to the user experience. A strategy for the challenge was defined although it was unclear how the debate would look like. During the debate everybody was responsible for two improvements, both our improvements as from the others. To strengthen our proposals a presentation with visuals was made so everybody could see them.

*Week 5, the second week*
After the challenge of Mirabeau everybody worked their notes directly out to make sure that no information or feedback would be lost. As preparation for the lecture of week 5, where this group acted as a participative audience, everybody read the design can on their own to be well-prepared for giving feedback. During the presentation of Koen Beljaars notes of his vision, his experience on user experience and user experience at Van Berlo were taken. After the presentations of the teams of this week, the audience asked questions and gave feedback. We especially applied our knowledge from the first challenge to give critical feedback. Notes of the other questions, answers and feedback were taken so it could be used for the report.

*Week 6, the third week*
This week started with reading the design case which was provided by Philips Design. During the presentation of Jaap Knoester notes of his experience, his vision on user experience and user experience design at Philips were taken. After the presentations of the teams, questions were asked and feedback was given, both regarding the user experience. This all was written down so it could be used in the report. After the lecture the group scheduled a meeting to discuss the notes and presentations. Besides that, tasks for the report were divided. Before submitting the report a final meeting was scheduled to finalise and check the report.

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