

Redesigning the theme park queue

Peter Blesgraaf
Delft University of Technology

Redesigning the theme park queue

Wander is a theme-park waiting-system that was designed to provide visitors with a more positive and engaging experience of waiting for rides (e.g., rollercoasters or water rides). Instead of requiring visitors to wait in a physical queue, the system makes use of a virtual queue system. Visitors enter a waiting area belonging to a specific theme park ride and receive a pager. This pager is hung around the neck, and starts beeping, buzzing and flashing when it is time to enter the ride (Figure 1). Until that happens, visitors can freely roam the waiting area and engage in various activities that are related to the ride, such as playgrounds and interactive installations (Figure 2). For example, the waiting area for a water ride can include water sprayers that are used to spray people in the ride (Figure 3). The pager functions as a token that activates the sprayers for a limited time, making sure many different people get a chance to use them. It is important that these installations fit the theme of the ride itself. For example, an Aztec ride has an altar to activate the statue of a deity (Figure 4), reflecting the theme of the ride in appearance and operation. The area also includes facilities to fulfill practical needs, such as vending machines and bathrooms. Even these practical facilities should convey the atmosphere and story of the specific ride theme. In addition to providing visitors with more freedom and the ability to fulfill practical needs during their wait, the design enriches the total theme park experience by helping visitors get into the mood for the ride they are about to enter.

Design challenge

Redefining the theme park queue was the author's graduation project of the Integrated Product Design master's program at Delft University of Technology, The Netherlands, executed in collaboration with a large European theme park. The project focused on (extended) families that included children between the age of eight to fourteen. Theme parks

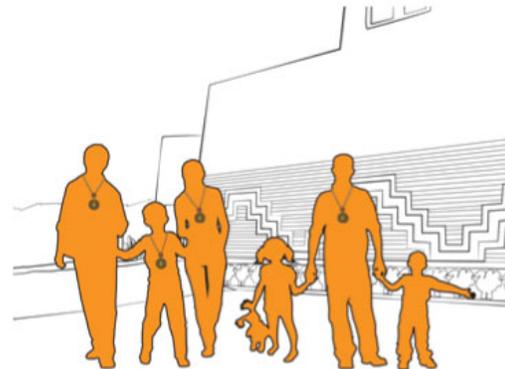


Figure 1

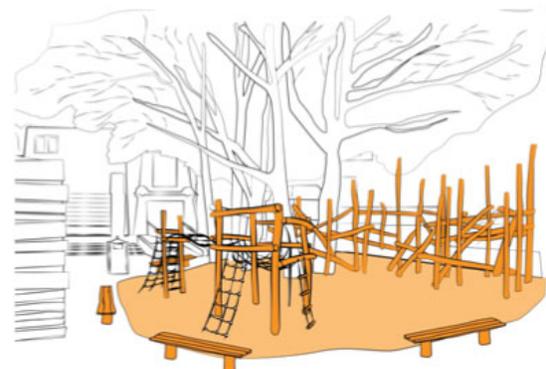


Figure 2

know from experience and measurements that people spend a major part of their visit waiting in line, while it is also seen as the most negative aspect of the park experience. At this specific theme park, 45-60 minutes is considered an average waiting time for a large ride, but on busy days, this could extend to 90 minutes. The project's aim was to research visitors' perceptions of the waiting queue and their needs during the wait, and to develop a new waiting system concept to address these findings.

The traditional – and still dominant – queue type for theme park rides is the single, meandering line that follows the first-in-first-out principle. The largest advantage is that this queue type is considered fair (Maister, 1985), which people find important, and that it is simple and inexpensive to implement. However, several theme parks in the world, most notably the Disney parks, have started experimenting with alternative

Peter Blesgraaf, Department of Industrial Design, Delft University of Technology.

Correspondence concerning this article should be addressed to Peter Blesgraaf, Delft University of Technology, Department of Industrial Design, Landbergstraat 15, 2628 CE Delft, The Netherlands. E-mail: peterblesgraaf@gmail.com

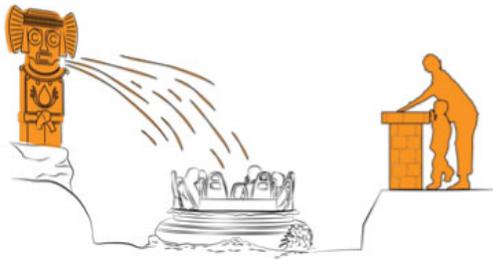


Figure 3

waiting concepts to explore how the waiting experience can be made more enjoyable. There are two main developments. The first is the inclusion of entertainment for people in the queue, such as decoration, interactive elements, and active entertainment with actors. The second is the implementation of virtual queue systems, such as the Disney Fastpass system. With the use of virtual queues, visitors receive a timeslot for a ride and can roam the park until it is their turn. Although visitors are generally positive about virtual queues, there are some downsides that prevent them from being implemented on a larger scale. First, there is a logistic problem: if all visitors of large theme parks waited virtually, there would be a surplus of people roaming the park. Physical waiting areas function as buffers that allow more visitors to be in the theme park at the same time. Second, waiting areas prepare people and build their excitement for the upcoming ride, improving the overall park experience. An important aim of theme parks is to help people escape the real world and enter the fantasy world of the theme park (Durrant et al., 2012). Specific rides can bring variation to this fantasy world by providing different themes, like a space theme or a pirate theme. However, in most of the current theme parks, traditional waiting lines do not significantly contribute to the theme, and are just a simple and inexpensive solution.

Project approach

The project consisted of a research phase, which focused on the perceptions, motivations and feelings of theme park visitors, and a subsequent design phase, in which the new waiting queue concept was developed. The research phase consisted of three parts: an explorative questionnaire that participants received in the mail, a visit of the participants with the researcher to the theme park, and a focus group session after the visit.

The participants were four extended families, groups of four to six people of varying compositions, always including at least one parent and children between the age of eight to fourteen, and sometimes grandparents, aunts, uncles, or

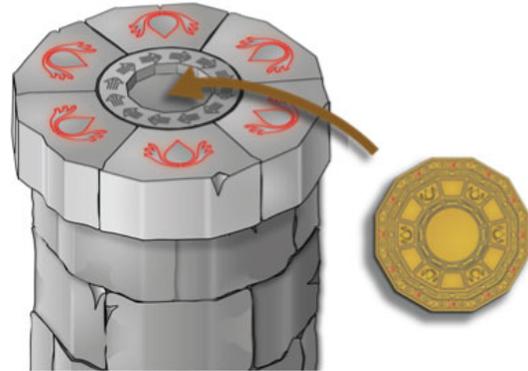


Figure 4

friends. The children were chosen in that age group because they would be old enough to go on the larger rides (which have the longest waiting times), but not old enough to go on rides individually, giving the researcher the chance to observe the group together.

The questionnaire explored participants' memories of previous theme park visits, on the waiting experience in general, and on their preparation for the upcoming theme park visit. The questions and assignments in the questionnaire also aimed to mentally prepare the participants to reflect on their experience during the subsequent theme park visit. The visits took place on Saturdays, which are the busiest days for theme parks. Each visit included at least two large rides and accompanying waiting queues. The researcher followed the families the whole day to observe and question them. The focus group session took place within two weeks of the visit, and was meant to take more time to reflect on the experiential aspects of the visit. The respondents engaged in several activities to map their associations with the theme park, the problems encountered during the wait, and an imagination of the worst queue possible. In addition, they did creative assignments to generate solutions for the problems, to further probe on their beliefs and motivations.

After the research, the motivations and emotions of the waiting process were mapped on the basis of reversal theory concepts (Figure 5). Together with the list of practical issues, this formed the basis for the iterative development of the design concept *Wander*.

Insights and design implications

The research showed that all participants disliked long waits, however, their motivations behind their dislike differed. Although all motivational states were found to become active at one point or another (see Figure 5), the three most relevant to the project were the telic, paratelic, and negativistic states.

The parents were often found to be in a telic state, because they wanted to follow a certain plan and manage the

WAITING PROCESS EXPLAINED THROUGH REVERSAL THEORY



Figure 5. Map of the waiting experience based on motivational states

time spent in the theme park. Long waits were obstacles to seeing the whole park and going on all the rides – in other words, getting the most out of the expensive entrance ticket. Second, they were aware of their children's ability to wait in line before having to eat or go to the bathroom, which was not always very long. These factors increased arousal in the parents during the wait, making it an unpleasant experience. The children, on the other hand, were mostly in the paratelic state when entering a line. They were excited and looking forward to the ride, and often dismissed that an expected long wait would be a problem. They did not consider that the time lost in the queue would impact the day plan. However, most of them gradually became bored during the wait, especially if it was longer than 45 minutes. For them, the unpleasantness was caused by a lack of arousal. The negativistic state became more prevalent later into the waiting experience. It manifested itself mostly in the children, but it was also observed in the parents. The children were looking for other ways to increase their arousal, which included running in the small open spaces and swinging from the barrier tubes, and sometimes even hair pulling and shoving. Bored children sometimes start whining to their companions. These behaviors could then trigger negativism in the companions, who would become angry at the children. Occasionally, they would become angry at other visitors, because of the tenseness of the situation and the physical proximity (which un-

derlined the need for a fair queue system), or to the management of the park, for creating a system that included such long waits.

This motivational analysis was the basis for the *Wander* waiting system. In this design, the children have ample means to increase their arousal, because they can freely move and use the playground. Moreover, they can satisfy their negativism in a harmless way by using installations like the water sprayer. The parents, on the other hand, have fewer worries about their children because of the presence of food, drink and bathroom facilities. By taking away the pre-occupation with the queue, physical urges, or the day plan, visitors can instead get into the mood for the ride.

Discussion

Reversal theory helped the designer to structure the research of the different participants' dynamic motivations and to design a solution that took all these motivations holistically into account. Specifically, it shed light on which elements of theme park queuing were most negative to specific types of visitors, at specific points in the wait. A found limitation of using reversal theory in the design process was the difficulty of predicting whether a certain trigger would be successful in bringing about a reversal. One could only determine that a reversal had taken place. It would be helpful to

understand what can cause certain reversals, so that designers can more actively offer people the desired emotions.

References

- Apter, M. J. (2007). *Reversal Theory: The Dynamics of Motivation, Emotion and Personality* (2nd. ed). Oxford: Oneworld Publications.
- Durrant, A., Kirk, D., Benford, S. & Rodden, T. 2012. Pursuing Leisure: Reflections on Theme Park Visiting. *Computer Supported Cooperative Work*, 21, 43-79.
- Maister, David H. 1985. The Psychology of Waiting Lines. In: *The Service Encounter*. Czepiel, J.A., Solomon, M.R., & Surprenant, C.F. (Eds.). Lexington, MA: Lexington Books, 113-23.