Empathy at Work

Using the Power of Empathy to Deliver Delightful Enterprise Experiences

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Abstract. To deliver best in class user experiences, design practitioners have to create the end to end experience based on a solid understanding of the target user's needs. In the case of consumer products, this task is made somewhat easier by the fact that the designer can "imagine" themselves as the potential user of the product. This strategy is rendered ineffective in an enterprise context since the designer is most likely not the end user they are designing for. To overcome this hurdle, designers can use the power of empathy to understand their user's needs and design delightful experiences for them.

In this paper, we will share a case study from SAP's Design and Co-Innovation Center that illustrates the power of empathy to understand a complex domain and design experiences that delight.

Keywords: User experience · UX · Strategy · UX management · UX leadership · Customer experience · Human centered design · Information technology

1 Introduction

Scientists discovered special neurons called "mirror neurons" that fire when we watch another person do something. Neuroscientist Giacomo Rizzolatti and his colleagues made this accidental discovery while testing a motor neuron in a monkey's brain that fired every time the monkey grabbed a peanut. They were surprised to find that the same neuron fired when the monkey watched a human researcher reach for a peanut. It was as if the monkey's brain could not tell the difference between seeing and doing – watching somebody do something was just like doing it yourself! They soon found that this was true for the human brain as well, and named these set of neurons mirror neurons.

This research on mirror neurons is relevant for enterprise software designers, and it offers a powerful tool they can leverage. This tool is empathy. Designers of consumer products have a slight advantage in that they can imagine themselves as users of the product they are designing. For example, when designing a social networking site, the designer and his or her team could be the potential users. Hence, they can design based on their preferences and usage of the site, and have a good chance of being on the right track.

Enterprise software designers do not have this advantage. They are unlikely to be the CFO managing financials through a dashboard, the sales representative generating

customer leads, or the warehouse worker managing inventory and fulfilling customer orders. To overcome this challenge, designers need to build empathy with their target users and watch them in action. This fires their mirror neurons and gives them a better chance of designing an experience that will delight the end user.

We start this paper with an analysis of the unique challenges faced by an enterprise software designer in an increasingly complex IT and business environment. We then go on to share a case study of Vilore Foods, an importer and distributor of food products. They brought us, the Design and Co-Innovation Center (DCC) at SAP, in to improve their warehouse operations and increase productivity. The case study highlights how we, as enterprise software designers, use empathy as a tool to understand our end user and create technological tools that delight them and simplify their work.

2   Unique Challenges for Enterprise Software Designers

Enterprise software vendors such as SAP are committed to meeting and exceeding their users' expectations. This implies designing experiences for our enterprise customers that delight them and simplify their work at the same time. However, to be able to do so, our design and development teams need to overcome certain challenges that are unique to the enterprise software industry.

2.1   Complexity of Technological Landscapes

According to CIO Magazine[1], technology landscapes in organizations are increasing in complexity. This is primarily due to the heterogeneous and distributed nature of IT systems, which are facing increased pressure to adopt consumer technologies, support a mobile workforce, manage technical architectures, govern this workforce and ensure security in a distributed environment.

According to Mark McDonald, Gartner's vice president of executive programs[2], "the challenge of (IT) complexity is exacerbated by the fact that many organizations have technology systems built over time, or acquired through acquisitions or complicated by many waves of vendor consolidations. For these companies, moving forward requires an almost archaeological effort to unearth, understand and work with all these layers of sedimentary technology".

Therefore, even a simple upgrade to business software has a ripple effect on an already complex landscape. Enterprise software companies need to go through a rigorous process of planning, implementing and testing such software upgrades, to ensure that integration between systems is intact, and business reporting is still accurate.

From a user experience perspective, enterprise software designers face the challenge of considering not only the efficacy of the user interface, but also the cost of adoption, and the additional technical complexity it introduces into the landscape.

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[1] http://www.cio.com/article/158250/Consumer_Tech_The_New_Complexity_Add.

[2] http://cxo-talk.com/mark-p-mcdonald-group-vp-gartner/.

2.2   Business Complexity

Businesses are becoming more complex, and the rate of change is faster than ever. Due to increasing globalization, a company's customers, suppliers, manufacturers, and distributors may span the world. With this comes increased regulatory pressure and penalties of non-compliance.

While enterprise software is delivered to fit standard business processes, each company may have unique workflows. Business software designers are faced with the task of recognizing these unique needs of the customer, while enabling a simple, easy-to use experience for end users (Fig. 1).
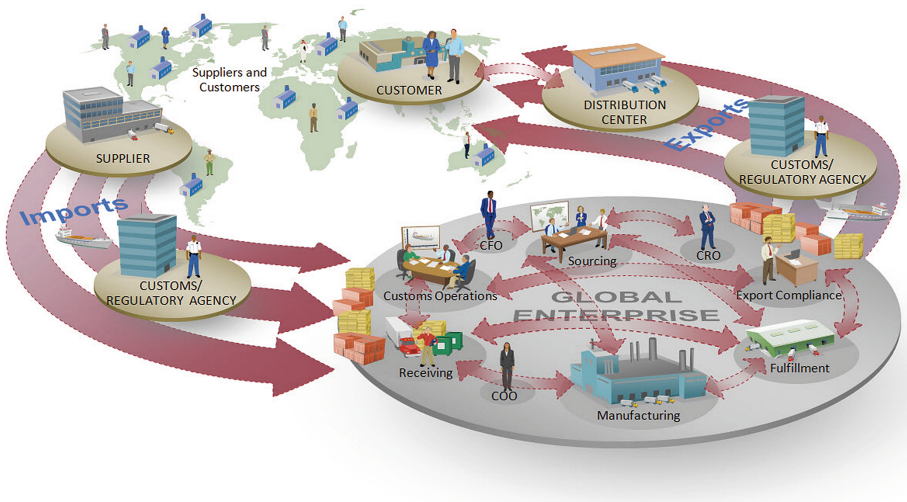

Fig. 1. Complex business environments

2.3   Lack of Design Skills in IT Organizations

To address the technical and business complexity, enterprise software is customized and configured by teams of consultants and IT staff. While these teams are typically comprised of people with technical and business skills, they usually lack design skills. Therefore, they consider the technical and business requirements of the organization, but ignore the overall user experience. This leads to software that may be functionally complete, but does not take into consideration the human being who needs to use it to get their job done.

3   Case Study: Vilore Foods

In June 2014, we engaged in a project with Vilore Foods – a leading importer, distributor, and marketer of Mexican food products and beverages in the United States and Canada. Vilore uses SAP Enterprise Resource System (ERP) to run their operations.

With offices across the U.S. and warehouses in Imperial, California and Laredo, Texas, Vilore's mission is to create "best-in-class" selling strategies that satisfy the hunger for real Hispanic food from coast-to-coast.

Vilore Foods and their implementation partner ElementFive asked our team to analyze and improve their visibility into operations and inventory levels, and streamline communication between the sales and warehouse teams. The engagement was extremely fast paced, spanning two weeks, with three days spent on site at Vilore's warehouse and regional office in Texas.

3.1   The Problem

Vilore's trucks carry food products like refried beans, pickled jalapenos and canned juices across the border from Mexico to the U.S. every day. On average, a warehouse receives over 30 trucks daily. The "Inbound Delivery Process" for trucks, was complex and took over 50 steps to complete. This process resulted in the creation of a "Good Receipt," a receipt confirming the amount and types of goods received from a particular truck.

Only once a Good Receipt has been created can Vilore take orders from wholesalers and retailers against the incoming stock. This implies that the longer it takes to create a Good Receipt for a truck, the longer it takes to accept orders against those items. Vilore recognized that by optimizing the process, they could accept orders on a more real-time basis and increase profits. They asked the DCC to analyze their Inbound Delivery Process, and reduce the amount of time it takes from when a truck arrives at the warehouse security gates to the creation of a Good Receipt.

3.2   The Approach

At the Design and Co-Innovation Center, we believe that empathy is the heartbeat of every project. Find the heart beat early and it will guide your decisions in the right direction, leading to a delightful customer experience. To find the heartbeat of the project, we began with the discovery phase, wherein we observed and interviewed stakeholders to build empathy, understand the challenge at-hand and create a problem definition. We used this research to define personas and derive insights and principles that guided us through the design phase.

During the design phase we generated ideas to address the design challenge and started building prototypes that were continually validated and iterated on with the end users. This was followed by the delivery phase, when we started implementing functional prototypes by applying technology. We explored what was technically feasible to address the design challenge, and continued to test and iterate with users before deploying a new solution.

Integral to our approach and success was a multi disciplinary team. In addition to designers from the DCC team, we had a technical expert from ElementFive who was very familiar with both Vilore Foods and SAP solutions, a business expert, and an analyst from Vilore's IT department.

3.3   Discovery Phase

We started our research at Vilore Food's warehouse in Laredo, Texas. As it was essential for us to meet with and observe end users, we asked the management to ensure access to warehouse workers and other employees involved in the Inbound Delivery and Good Receipt Process. This took the management by surprise initially – they were unsure of the value of this step, and were hesitant that we would have limited time with users as they were tied up with quarter end reporting activities.

This is a challenge our team has faced in the past and we tend to be very flexible when asking for people's time. Once meeting timelines were agreed upon, we started the day with a tour of the facility by Luis Garza, the Receiving Director at the site. To understand the entire process, starting with trucks arriving at the warehouse gate, we decided to follow people performing the different tasks sequentially.

Our first stop was with the security guard, the first person to interact with the trucks once they arrived at the warehouse gates. The guard explained the process she follows step-by-step. Her two main activities were to inspect the truck and initiate the correct paperwork. We observed that the guard manually records all the trucks that come through on paper. She inspects the container and makes photo copies of the documents provided by the driver (Fig. 2).
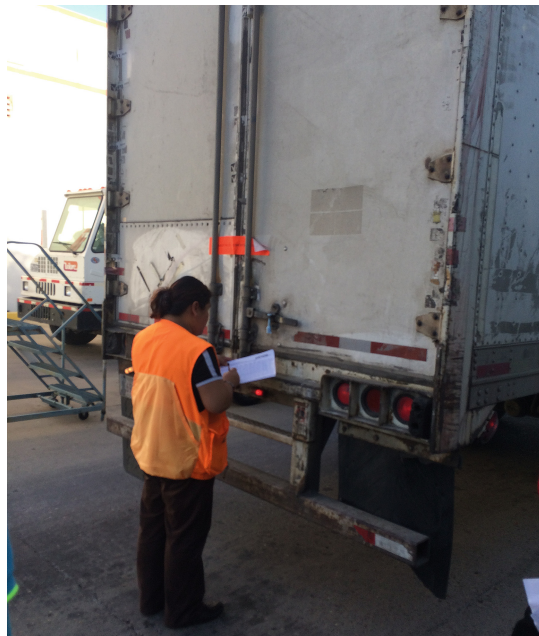
Fig. 2. Security guard inspecting trucks at the warehouse

Once the truck is cleared and the driver is authorized to enter the warehouse and unload the trailer, the security guard goes to her booth and copies the information into an excel file manually for the night shift guard. The night shift guard enters this
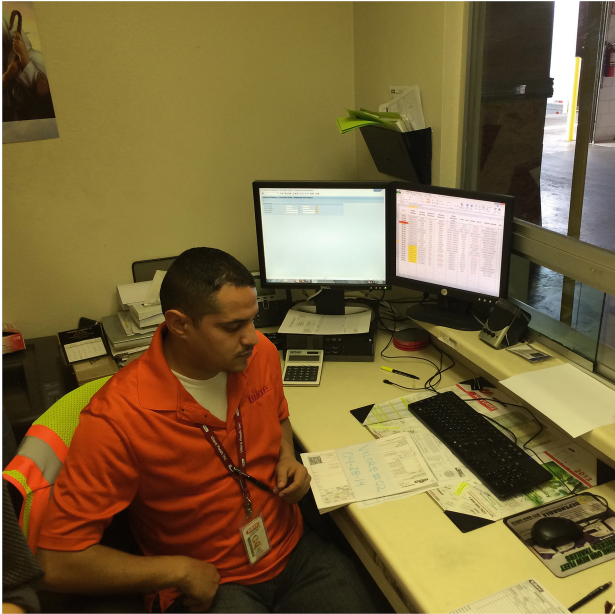
Fig. 3. Observing data entry process

information from the excel file into the company's ERP system, which runs on SAP. This allows the forklift driver to proceed with docking the truck staging the goods for inspection the next day (Fig. 3).

Through the next day and a half, we continued to observe and interview individuals involved in the process. The empathy we built by observing end users allowed us to develop a deep understanding of their day-to-day activities and pain points. With this information, we created a journey map of the existing process, color coding the manual steps, electronic touch points and points of hand off between different roles. Six distinct roles were identified, and it was visually apparent that the process was very manual (Fig. 4).

3.4   Design Phase

During the discovery phase, we heard some key opinions and aspirations from users that can be summarized into the following product requirements –

- Accurate and data driven information about the goods coming into the warehouse
- Better overview of inventory levels, and improved communication between the sales and warehouse teams about committed stock
- Optimization of off-loading process based on stock requirement priorities
- Electronic record of incoming and outgoing stock, allowing for better audit compliance.

Fig. 4. Journey map used to design application prototype

We started by creating a quick prototype of an application for security guards using the existing design stencils in SAP Fiori. This prototype was validated with managers, security guards, and others involved in the process, and further developed based on their feedback.

Ready access to end users and technical resources allowed us to rapidly iterate and validate potential solutions, much to the customer's delight. The security guards were excited to be involved in shaping a solution meant for their daily use, and commented on the fact that no one had asked them what they wanted or needed to assist with their job till now.

3.5   Delivery Phase

We closed the project by providing both technical and non-technical solutions to the customer. On the technical front, we provided a functional prototype of the application for security guards, along with a roadmap to develop six additional applications covering the entire Inbound Delivery Process. On the non-technical side, we identified simple solutions like adding a printer in the inspection area to reduce the amount of time spent collecting print outs.

Building empathy for the end user played a significant role here. Observing them in their workspace implied we were able to recognize their technical as well as

non-technical pain points and suggest solutions accordingly. Had only technical answers been provided, the users' pain would only be partially alleviated.

4   Conclusion

We often site our project with Vilore Foods as an excellent example on the importance of building empathy when designing enterprise software. While nobody on the design team had direct experience in the roles involved in the Inbound Delivery Process, by observing the end user, activating our mirror neurons, and building empathy, we were able to provide solutions that satisfied the end users, Vilore Foods management and IT department, ElementFive and SAP's account executives.

In addition to delivering great solutions, the process of building empathy also got end users involved in the co-innovation process. This made them feel valued, and they became excellent proponents of our work, conveying their confidence in our proposed solutions to their management. Upon completing our warehouse visit, once we reached Vilore's regional headquarters in Texas, the management had already heard from the warehouse workers and were ready to work with us on designing the solution. Not surprisingly, we see similar outcomes on most of our projects!