Efficiency In Design
Case Study: Mobile Sales Force Automation

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Abstract

Research shows that interaction models determine if designs are exploratory or task oriented in structure. When the business objective defines efficiency as the key goal, the intent and structure remains action oriented.

1. Introduction

A study by the Aberdeen Research Group states that forty-seven (47) percent of Best-in-Class companies cite user interface design on mobile devices as a key challenge, to deploying a mobile salesforce automation solution.

Within the realm of this virtual world, experiences and tasks determine the usage of a product. Interactions and navigation patterns develop our sense of knowledge and outcome. With various movements, we create a mood to interact with and enjoy the experiences available around us. Our movement determines the creation of products. Most of all, it relates to time. We are either groping for time online (where efficiency and time come into play) or we aim to spend time online (where luxury and experience come into play). At MindTree, when we design, we cater to such end user objectives. As a result, businesses begin to understand and develop these wants and needs of customers.

2. Exploratory Design (Design Goal = User Exploration)

With various designs available, the goals and the objectives rely on pleasing our end users. For example, if we look at the web, we see that websites like YouTube and Facebook focus on providing an experience. This experience matters more than the tasks or functionalities. Individual websites and blogs again focus on experience. Creative websites take the big leap in cases like this. Likewise, Ogilvy India's website and Swift allow users to 'explore' the products before making a purchase.

3. Task Oriented Design (Design Goal = User Efficiency)

In most cases, you don't have exploratory and task oriented design merging together on one website or application. Of course exploratory design needs to cater to ease of navigation, user control, error prevention and the like. In its entirety, with exploratory design, tasks are secondary. On the other hand, with the banking domain, designs cater to task orientation. When users need to get things done, they rely on task orientation.

4. Case Study: Mobile Sales Force Automation

Moving from the web, these experiences are transformed to our mobile. At MindTree, we were asked by our client (undisclosed) to design a sales force application that belonged to the consumer packaged goods industry. Looking at the two design intents discussed above, the client wanted exploratory and task oriented design in a package delivered to them. Based on our research, this was unacceptable by us. Specific requirements were handed out which when summarized meant that we needed to redesign their current hand held application that would look and behave like the IPhone.

Enthused as we were, we got ourselves down to some serious ground work of researching best practices, knowing our end users, conducting

stakeholder interviews, and gathering requirements. We then created a report filled with our journey ahead. Our reasons for objecting the IPhone interaction method was primarily based on our end users and their expectations of the application. The goal was efficiency and we knew that this couldn't be achieved if we had another IPhone look alike.

With the research in hand, we began sketching out our designs to conceptualize the future of this application. With various sketches available, we prototyped and created mock ups of the design which was well received.

5. The Concepts

To engage our client into our thought process, we then decided to create a few concepts before beginning our redesign. With the paper prototypes created (Figure 1), the client expected to visually see them on the screen. We created a few concepts that would help us finalize the structure.

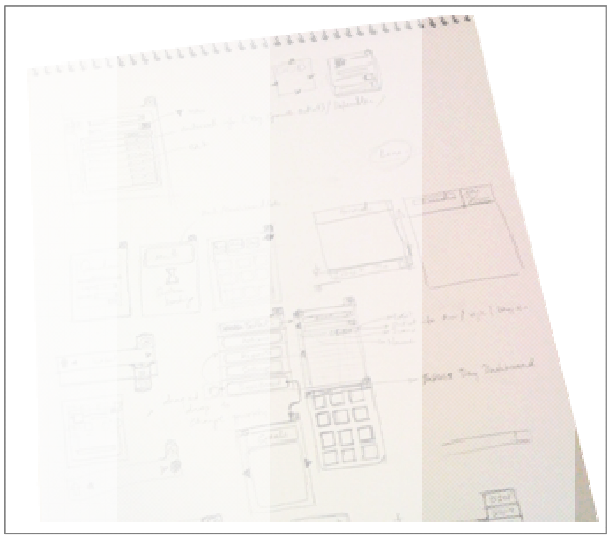


Figure 1. Conceptualization and prototyping.

We showcased these concepts to the client. They came back to us with feedback that was expected, "Can't we get this to look and work like the IPhone?" Our recommendations against this approach seemed never ending. Debates and series of phone calls didn't seem like it was getting us anywhere. We then re looked at the business objectives to understand that one of the primary goals was to improve efficiency, creating an enhanced visual appeal. We pushed this objective forward to the client. They resisted. Thus, MindTree began designing a sales force application that looked like an IPhone. The client was yet to understand our recommendation; a futile chase indeed. Yet, we persisted.

With a lot of resilient discussions and bombardments across the table, our client agreed to drop the IPhone like 'looking' application (considering this would bring a drop to their brand identity). Though, they were determined to create an application that would function like an IPhone (Figure 2).

Figure 2. IPhone interaction for a sales force application.

6. Recommended Approach

The recommendation was simple. Efficiency in design comes into play when end users are time bound and have targets to reach on a daily basis. Our end users would refuse to interact with a device that would delay data inputs. They wanted an interface that would get them through with the task of placing an order at the store. Figure 3 shows our recommended approach wherein salesmen enter data with ease without having to scroll through data as seen with figure 2 above. Comparing the approach in figure 2 and 3, the client began to contemplate as they began to notice that salesmen wanted efficiency and not aesthetics in design for a salesforce application.

Figure 3. The recommended input method.

Thus, we won the deal.

7. The Power of Research

Since our application redesign was still in its conceptual phase, we didn't have a developed prototype to be able to test such an interaction with end users. We instead took 5 participants at hand to test the input method from the IPhone and the input method recommended as seen in figure 3. With both the interactions at hand, our participants were able to tell us that the recommended design provided an efficient interaction model as compared to the IPhone as it took longer to key in data on the latter.

7.1 Session 1: Participants Untimed

During session 1, the participants were asked to interact with the IPhone using the input method of the calendar. They were not timed. Each participant was asked to pick up the IPhone to create a calendar entry. This input method was used to correlate the design intent of the data entered.

Result: Users satisfied with the interaction provided to them.

7.2 Session 2: Participants Timed

The same participants were then asked to use the IPhone again to input data. They were timed this time around. Knowing that their performance mattered, the number of errors began to increase when entering data.

Result: Users were unsatisfied with the interaction provided to them.

Soon after, the same participants were asked to use the interaction recommended by us as shown in figure 3. Knowing that they were timed, these participants felt at ease as the entry method was much easier. As a result, less number of errors were made.

8. First Impressions

After being timed, each participant was provided with a likert scale (Figure 4) wherein participants were to determine their satisfaction or dissatisfaction levels towards both the interaction methods.

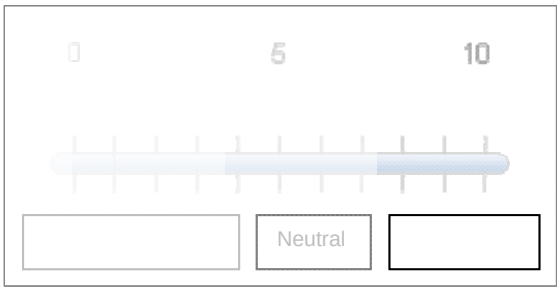
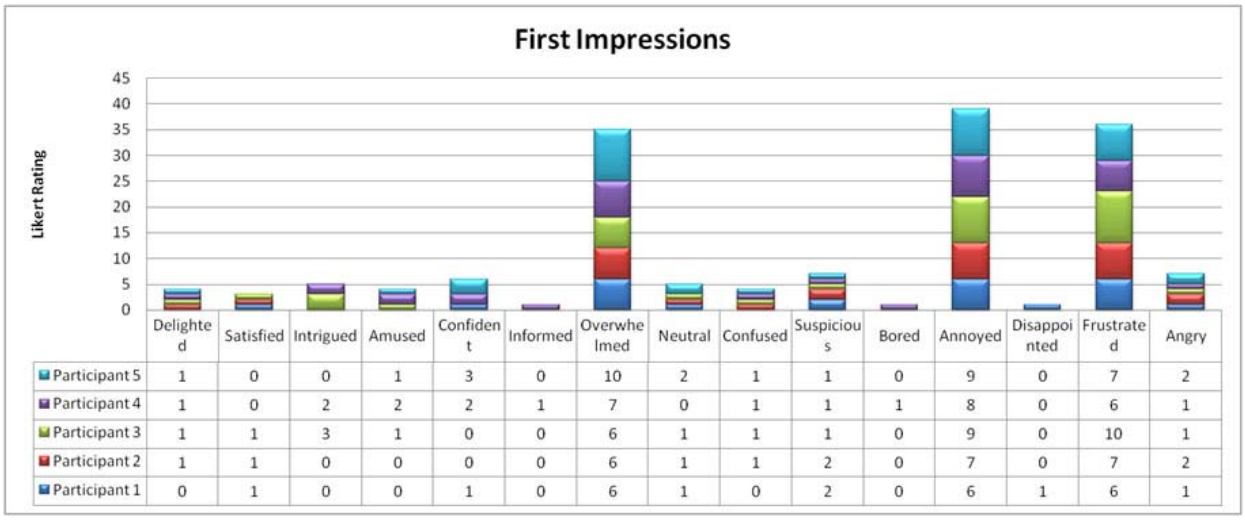


Figure 4. The likert scale shown to participants.

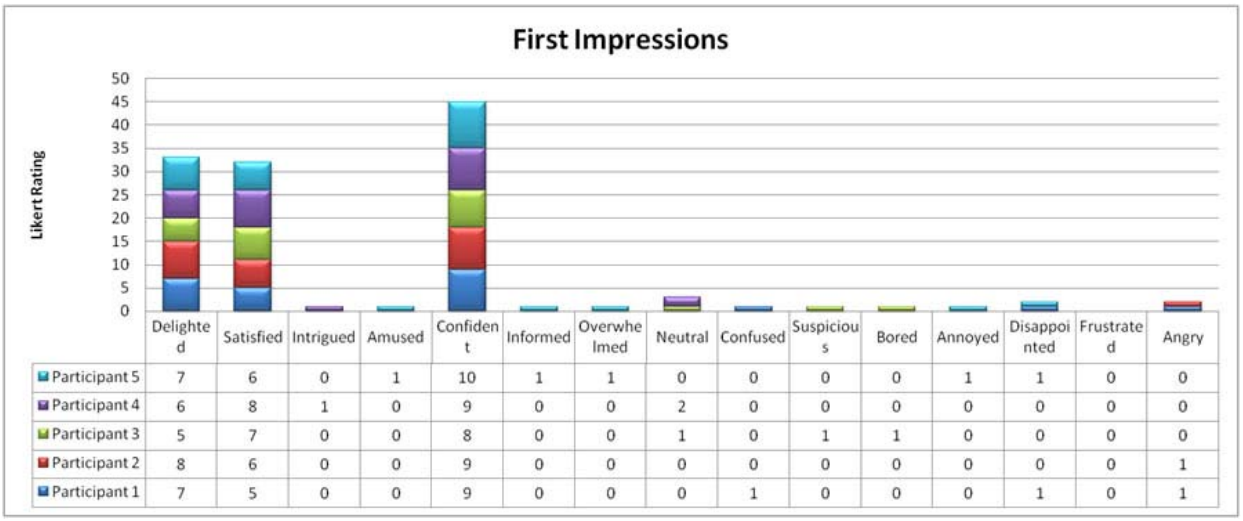
Results from the IPhone interaction, when timed



	Delighted	Satisfied	Intrigued	Amused	Confident	Informed	Overwhelmed	Neutral	Confused	Suspicious	Bored	Annoyed	Disappointed	Frustrated	Angry
Participant 5	1	0	0	1	3	0	10	2	1	1	0	9	0	7	2
Participant 4	1	0	2	2	2	1	7	0	1	1	1	8	0	6	1
Participant 3	1	1	3	1	0	0	6	1	1	1	0	9	0	10	1
Participant 2	1	1	0	0	0	0	6	1	1	2	0	7	0	7	2
Participant 1	0	1	0	0	1	0	6	1	0	2	0	6	1	6	1

Figure 5. Participants were mostly overwhelmed, annoyed and frustrated.

Results from the recommendation, when timed



	Delighted	Satisfied	Intrigued	Amused	Confident	Informed	Overwhelmed	Neutral	Confused	Suspicious	Bored	Annoyed	Disappointed	Frustrated	Angry
Participant 5	7	6	0	1	10	1	1	0	0	0	0	1	1	0	0
Participant 4	6	8	1	0	9	0	0	2	0	0	0	0	0	0	0
Participant 3	5	7	0	0	8	0	0	1	0	1	1	0	0	0	0
Participant 2	8	6	0	0	9	0	0	0	0	0	0	0	0	0	1
Participant 1	7	5	0	0	9	0	0	0	1	0	0	0	1	0	1

Figure 6. Participants were delighted, satisfied and confident.

With what we designed, efficiency was the focus. Researched 5 participants, our client understood the problem. Several participants of this study either made a lot of errors or found it difficult, taking more time and effort to key in details. Ultimately and convincingly, the IPhone interaction was dropped.

Backed by the branding guidelines and research data, the client believed that we should stick to a unique interaction model based on our recommendation.

9. Industry Analysis

Salesforce showcases Mobile CRM and recommends that the applications be ported on the blackberry devices. Though, depending on the budget, devices are chosen to be utilized. Salesforce Mobile supports RIM's BlackBerry, Apple iPhone, and many Windows Mobile 6.0+ devices.

04 Corporation also provides a mobile platform application that aids sales in the retail industry. The application helps salesmen automate day to day operations, optimize effectiveness while on a call, and deliver cost effective solutions. The O4 Solution Platform provides support for a range of mobile devices including handheld PDA's, combined PDA/cellular communication devices and ruggedized handheld computing devices and tablet computers.

NewsPage is another company that offers EXPRESS SFA which provides real-time information for effective decision making; it reduces paper work and minimizes data entry error and has a low learning curve which makes it easier for salesmen on a call. Various operating systems are supported like Windows Mobile, Windows CE, Pocket PC, Windows XP etc, without the need to rebuild the entire application.

Looking at the applications that are available in the market, the trend leans towards building an application on the IPhone. No doubt that this mobile phone has made the industry crave for an exciting new and professional looking interface. Salesforce SFA looks into this new opportunity which will allow their salesforce application to be built on the operating system of the IPhone. From a user experience perspective, this approach is the right way ahead. Though, companies need to be cautious of the interaction patterns that the IPhone proposes for a salesforce application.

10. Conclusion

A recent Aberdeen survey revealed; companies that implement mobile sales force automation solutions are 1.5 times more likely to see an improvement in sales force productivity versus those that do not. According to this study, Fifty-nine (59) percent of respondents cite customer demands for real-time sales decisions as the number one reason to adopt a mobile salesforce automation strategy. One-third of Best-in-Class companies measure salesforce automation performance on at least a monthly basis, versus 21% of average and none of laggards who do the same. Forty-seven (47) percent of Best-in-Class companies cite user interface design on mobile devices as a key challenge, to deploying a mobile salesforce automation solution.

Companies that adopt such practices should be aware of what exists, what's possible and what's really needed as a business solution. Fabulous design is measured when end users are more efficient while using the redesigned product. Good design is also replicated by directly comparing the return on investment that the redesign brings into the business.

11. Acknowledgements

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12. References

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About The Author

- Consulting
- Research: Primary and Secondary
- User Evaluations: Qualitative and Quantitative
- Interaction Design
- Testing: Experimental and Non-Experimental

With a background in cognitive psychology, Afshan has been a user experience analyst for a period of 3 years. She has worked on websites, applications and hand held devices; analyzed and determined the need of users in an environment. Her studies go beyond the cognitive approaches taken by a user in a context, while using an interface. Essentially, she believes that without the understanding and interpretive knowledge of the human mind and perceptual understanding of the world, creation and innovation fails in delivering what is essential.

Her experience spans across domains like banking, insurance, retail and e commerce, travel and transportation, media and entertainment, networking, education and gaming.

Applying her knowledge across domains, this analyst believes that it is essential to globally connect with other experts in the industry. She also contributes to lectures at the HCI meet. A speaker and author for Boxes and Arrows and UX Matters,

Afshan believes in innovation and has faith that user experience will emerge as a best practice, globally.