

Plugging the Holes: Increasing the Impact of User Experience Evaluations

Sachin S. Yambal¹ and Sushmita Munshi²

¹ User Experience, Portal & ECM Lead, Accenture India,
Accenture Services Pvt. Ltd., 4/1, IBC Knowledge Park, Banerghatta Road,
Bangalore, 560079 India

² User Experience Thought Leadership Lead, Accenture India,
Accenture Services Pvt. Ltd. Plant 3 Godrej & Boyce Complex Off LBS Marg,
Vikhroli (West) Mumbai, 400 079 India

sachin.s.yambal@accenture.com, sushmita.munshi@accenture.com

Abstract. The principal objective of this paper is to demonstrate the APRICOT methodology that aims to streamline and increase the effectiveness of user experience initiatives within a development project and in the final solution. User Experience (UE) evaluations, both heuristic based and usability testing based are important skills and a crucial part of a practitioner's tool kit. They showcase the inadequacies in an application or system. Close inspection of projects which have used User Experience evaluations reveal that only a small percentage of User Experience recommendations actually make it into the final product. This substantially reduces the ROI for User Experience contribution. The APRICOT concept is work in progress and aims to make User Experience evaluation more effective by better integrating UE practitioners and aligning the processes and methodology with one used by development teams.

Keywords: ROI of Usability, User Experience Reviews, Institutionalizing Usability.

1 Introduction

User Experience (UE) evaluations, both heuristic based and usability testing based are important skills and a crucial part of a practitioner's tool kit. They are the most powerful way to showcase the inadequacies in an application or system. Forrester reported in 2008 that an average sized enterprise would spend about 20K USD per evaluation.

Close inspection of projects which have used User Experience evaluations reveal that only a small percentage of User Experience recommendations actually make it into the final product. This substantially reduces the ROI for User Experience contribution. Our User Experience practice has been working on developing process and guidelines to ensure User Experience reviews are more effective. The APRICOT concept is work in progress and aims to make User Experience evaluation more effective by better integrating UE practitioners and aligning the processes and methodology with one used by development teams.

This paper does not delve into methods and tools to better identify User Experience problems, report or communicate them. The authors have assumed that User Experience practitioners have reached a level of maturity and consistency in identifying and reporting these effectively.

1.1 The Challenge

Why do we need better methods to ensure User Experience recommendations get better incorporated?

A recent market trends noted that by 2009, customers will hold companies accountable for the quality of their experiences. Thus the time is ripe for User Experience/Usability to move away from a craft based individualistic approach to a more ubiquitous approach. User Experience teams are at the cusp of steep growth (Usability Services Are the Next Offshore Frontier, Partha Iyengar, Gartner Research). However it seems that teams find it tough to get their recommendations communicated and incorporated correctly to stakeholders and developers. This inability is likely to prove to be a major hurdle in making user centered design a mandatory process in the development methodology.

1.2 Additional Current State of Affairs: Unusable User Experience Recommendations

User Experience evaluations (reviews & testing) are powerful to point out usability shortcomings of a solution. Evaluations are often the entry point for engagement with new clients and the most commonly asked task from remote teams. Reams of literature have been dedicated to methodology, tools and best practices of User Experience evaluation/heuristic review/ expert evaluations. Effort has been made to demystify User Experience evaluations and codify User Experience principals to ensure that User Experience moves away from being a specialized craft and the bastion of few specialized practitioners to a more ubiquitous profession.

However, the amount of thought and research dedicated to communicate review findings and recommendations to development teams and stakeholders is limited. This has a serious impact on the perceived return of User Experience. A majority of User Experience teams are unsuccessful in ensuring their recommendations are incorporated in final products. A 2007 study by Molich, Jefferies, Dumas [1] compared User Experience insights and recommendations provided by 17 different professional User Experience teams. The study found that only 14 out of 84 recommendations (17%) were both useful and usable. The remaining findings were either not useful or presented in a manner that made them unusable.

The authors conducted an informal survey among User Experience practitioners to understand the quantum of effort and time spent by User Experience professionals in each step of a basic User Experience evaluation process. The findings were:

Knowledge transfer and understanding requirements: This step involves understanding business requirements, technology limitations, domain knowledge, etc. Most User Experience practitioners said that they spent anywhere between 1 to 5 days for a detailed knowledge transfer from the project sponsor or development team. In most cases the approach followed was that of a person to person transition including

sharing of documentation and providing overview of key tasks etc. In some cases practitioners mentioned using a pre formatted questionnaire to ensure all bases are covered. A small minority of practitioners mentioned following a strict process of interviewing key stakeholders to get a 360 degree understanding of expectations.

Conducting the review: This step involves reviewing the product in question, conducting User Experience tests to gather data from end users. Most practitioners spent a bulk of their time in this step. Practitioners also mentioned that a number of reusable tools like scorecards and best practice checklists are often used. Most practitioners seemed fairly confident of their abilities of conducting reviews. On an average, the authors felt that this step is handled in a fairly mature and consistent manner.

Reporting: Most practitioners mentioned using predefined formats to report findings. However it has been noticed that report formats are often not in line with a client's expectations and are structured in a way that is not comprehensible for people with low User Experience vocabulary.

Managing and incorporating recommendation into the final solution: Very few practitioners have been hands on and involved in this step. Most practitioners expect their responsibility to be over the moment they complete their final presentation. Those who have been involved in such a process mentioned that it was primarily on their own individual interest and often their involvement evoked a fair amount of conflict between the User Experience and the development teams.

2 Reasons of Failure

Some of the key reasons of User Experience team's failure to provide deep reaching value to clients and development teams are:

2.1 Focus

Critical success factors and business objectives of a product are important to identify at the onset of a review to ensure that User Experience problems can be effectively prioritized at a later stage. McQuaid and Bishop [2] recommend categorizing User Experience insights based on similarity (using affinity diagramming), and then prioritized along the dimensions of importance (How badly a user is effected or stopped from achieving a task that has direct repercussions on the product's success or monetary gain) and how difficult it is to fix. This structured approach is important as it provides a clear ROI justification to each recommendation.

2.2 Approach and Techniques

Inappropriate use of tools and techniques is another reason for unusable User Experience recommendations. Different techniques have varied levels of depth to identify and provide pointers toward solutions. For example: Using web analytics to address reasons of drop off is speculative. This is because web analytics only provides statistics of drop offs, and does not provide any clear pointers towards the reasons for drop

off. The nature of the User Experience review needs to be appropriate to address the client's doubts. Thus User Experience teams need to recommend the appropriate approach at the proposal level and educate stakeholder and development teams.

Speculative problem finding should be avoided as it reduces the credibility of User Experience. UE insights are tough to justify with stakeholders and development teams. User Experience practitioners need to back insights with either raw data or research.

2.3 Team Dynamics and Culture

User Experience teams are not appropriately integrated into development groups. Thus, they come across as external consultants. Dr. Arnie Lund [3] in his 2003 article on post-modern User Experience noted that a number of user experience teams are isolated and not well integrated with the client's business requirements and expectations. Evaluations are often very superficial; this makes clients believe that UE is primarily a skin level initiative.

In the aim to create reusable assets and codify heuristics, a number of UE teams lose the context of an evaluation and blindly apply global heuristics. Problems are identified, but there is little support or theoretical basis for specific solutions. Development teams are often left to understand the real repercussions on these insights and prioritize them.

UE teams have low understanding of the client's software development process, timelines or the approach taken to incorporate changes.

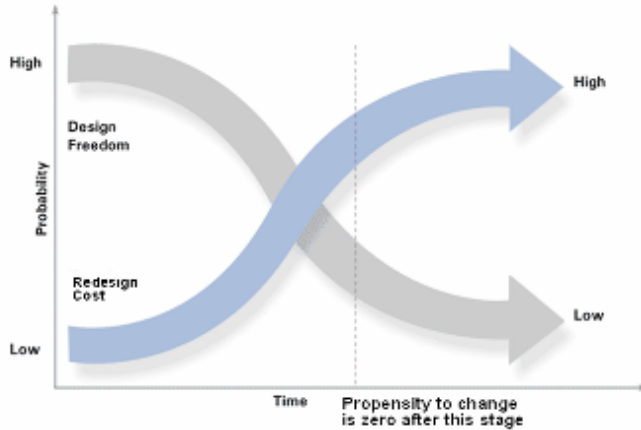
The relationship between User Experience and development teams are often very transactional. This staccato relationship does not allow UE teams to spear head decision making or be in a position to provide any strategic inputs.

In a number of companies, User Experience teams are reduced to gate keepers of User Experience or people who sign off on the User Experience of a product rather than help create it. User Experience evaluations are perceived as due diligence/quality assurance exercises.

Development teams don't learn or take away any value from these evaluations. The same mistakes seem to be made over and over again. This provides a steady stream of work for UE teams, but in the end it doesn't help the goal of enabling development teams and organizations to realize the full potential of UE.

2.4 Timing

Reviews done late in the development life cycle are validation, due diligence exercises or are commissioned to fix unforeseen fires. In both cases stakeholders and development teams want to fix problems in the least intrusive and in-expensive fashion. Late in the cycle, teams don't have the interest to make substantial changes. The aim is usually to localize and address the problem. User Experience practitioners often don't understand these limitations and fail to match the findings to the mood and expectations of the client.



2.5 Lack of Understanding of Usability Sharks

What differentiates a *great* User Experience professional from an *effective* User Experience professional? Great UE professional design usable interfaces but Effective UE professionals respect reality and ensure the designs are implemented. Effective UE professionals usually have a better understanding of how change is perceived and addressed both at an organizational and individual level. Mobilizing a team to rework a set of features is not an easy task to push through. Having stakeholder buy in or support from key individuals is not enough. Along the way it is seen that antagonist development teams will reject UE recommendations bit by bit over a period of time. This results eventually in undoing/rejecting large chunks of recommendations made by User Experience professionals. Often User Experience professional are not around during feasibility analysis to see through their recommendations or they don't have enough clout to fight what is often called User Experience sharks. Some of the common mistakes made while proposing recommendations are:

- Problems aren't prioritized based on a deep understanding of the nature of the users and how the context of use shapes their experience. Subtle problems that don't show up as obvious errors but that impact the core value of a solution.
- Problems are presented in an incomprehensible structure.
- Terminology used to communicate insights is User Experience jargon filled.
- Insights are not correlated to business and financial implications.
- Only symptoms of problems are reported. Lack of root case analysis does not help developers understand the issues.

3 APRICOT: The APRICOT Concept Is an Acronym for Analyze, Prioritize, Customize Offerings and Team Up

It has been noted that projects in which User Experience practitioners are involved at the onset, face less challenges in getting UE recommendations implemented in the final product. However the impact of these recommendations are dependent on how

well the UE team align the recommendations to the business requirements, critical success factors, technologies involved in solution, timelines of project and use of appropriate tools/techniques.

In many cases, User Experience professionals are engaged in tactical mode at various stages of product lifecycle or SDLC (Software development life cycle) phases. In such cases UE teams find it very tough to integrate well into the team and provide real value, the details of which have been discussed in detail in the earlier section of this paper. Thus it is imperative to look at new/alternate approaches, out of the box thinking and collaborative working with Business/IT teams to get recommendations implemented. The APRICOT concept provides a different perspective and activities that UE practitioners can use to provide value added services beyond the consulting approach of just providing recommendations.

3.1 Analyze Business Requirements, Project Lifecycle and Roadmap

Any usability intervention engagement should start with well documented critical success factors of assessments, clear scope definition, overall business objectives, technical constraints and organizational dynamics. This allows the UE team to focus on the burning problems that need to be addressed; other usability issues can thus be downplayed. Identifying the focus areas of assessment (strategic, navigation, interaction, information, detailed design) also helps UE teams better position their recommendations.

This written document ensures the client, and the UE and development teams have the same understanding and expectations from the engagement. The UE team should also communicate the required nature of involvement and support (should this be to) from the development team.

It is important for UE practitioners to understand the Product lifecycle (or SDLC phases for applications) used in a project at the onset of engagement. This would allow them to plan their work schedule/deliverables aligned with development team milestones. The UE teams should also look at the business/technology roadmap of the product, the release cycles and any new Business/IT initiatives that impact the product. If the application has a short term life or is due for major overhauls in the future, it is important to focus on quick wins only for reviews and help resolve issues in a timely manner.

If the applications are already in production, it will be useful to also look at the enhancements/change requests pipeline. Most of the IT projects follow a robust and streamlined process of managing bugs/enhancements through a change management process so the details are available easily.

The UE practitioner should understand the technical solution and challenges of the development teams (If the products leverages 3rd party products or packaged solutions and mostly uses out of the box features then recommending changes in those areas have a low probability of implementation).

3.2 Prioritize Recommendations

In addition to factors like ROI, technical limitations, and ease of implementation used for prioritizing UE recommendations, it is also important to consider other factors like

- **Development Methodology:** If a project uses the typical waterfall development methodology then it makes sense to do a complete review and provide recommendations aligned with milestone and release dates. The key thing is not to miss the milestone as acceptance of changes in late stages in this approach is very difficult. However for agile methodology or iterative development it is important to provide recommendations in an iterative manner and as frequently as possible (could be daily also if the iterations are weekly). In agile development, as the business/IT works with regular interactions, UE practitioners need to have closer ties with the development team.
- **Development Team's Maturity:** The more mature the team, the higher the resistance to change. Align the tone and content of your report to ensure minimal intervention and maximum benefit.
- **SDLC phase:** Assessments done late in the development cycle usually don't result in any change as teams have low propensity to amend the project at that stage. Therefore, recommendations should be prioritized based on what is realistic for implementation.

Early Involvement

- Provide recommendations to improve the navigational structure.
- Provide reworked wireframes and before-after examples.
- Provide tools to help development teams reduce their UI development timelines.

Late Involvement

- Provide tactical recommendations that provide maximum return for minimal change. Understand the technical limitations of the project.
 - Do not attempt to over complicate or simplify the situation.
 - Showcase the repercussions of User Experience issues. Create a business case to convince development teams.
 - Be open to negotiation
- **Business/IT Alignment:** Based on the alignment of the teams in the project, the appropriate strategy should be made to push changes through IT or Business.

3.3 Customize Offerings

Earlier in the paper, the challenges of getting usability recommendations implemented have been discussed in detail. Assessments methodology and processes need to be customized to address engagement specific business and technical requirements.

- Customize heuristic checklists and best practices to the critical success factors of the engagement. Consider domain, the industry vertical the solution is made for, context of use and device of delivering the solution apart from the details of target user groups and key tasks to customize checklists.
- Conduct assessment as per focus areas identified at the onset of the engagement. Ensure these focus areas are in line with business objectives and will lead to absolute dollar returns for the client. Focused reviews also ensure teams don't have to conduct a time consuming sifting exercise. In the past, usability teams have been known to conduct exhaustive reviews, the reports of which could run into

hundreds of pages. However, as the industry has matured, clients now look for specific answers to their business problems and are rarely impressed with bulk.

- Report problem areas, identify their root cause and mention the overall repercussion on user experience.
- Provide recommendations in tandem with technical, budgetary and time constraints.
- Create reports that are easy to comprehend and use. Apply usability principals while creating reports. Ensure they are easy to read, use and learn.
- Use terms and language that your client team is comfortable with and avoid jargonized presentations.

Similarly, it is critical to evaluate all the recommendations from a project perspective and customize them as per project specifics which will help ease implementation. Some aspects to be considered are

- Analyze if recommendations can be inbuilt into future enhancements/bugs planned for release and align with them.
- Review the recommendations and group them as per business use case. Also look at feasibility of creating new a business case with proper ROI for critical recommendations.
- Categorize the recommendations into 2 streams: Business benefits and IT enablement. Define ROI and loss in revenue (if not implemented) for business ones. Showcase reduction in IT efforts in Productivity improvement ones.
- Explore alternate options of getting recommendations implemented
- Collaborate with business teams and explore if they can be logged as maintenance/enhancement requests.
- Collaborate with IT teams and explore feasibility on getting covered in any of their initiatives

3.4 Team Up and Collaborate

User Experience teams are generally not well integrated into development groups and come across as external consultants. It is imperative to team up and push for closer proximity with the development community. UE teams need to actively collaborate in each stage of the change management process to ensure recommendations are incorporated. Some of the best practices/suggestions are shared below:

- Evangelize User Experience. Provide User Experience training to the development community.
- Train User Experience team on software development methodologies
- Power of 'We' during presentations and discussions. This reduces the *'them and us'* gap between developers and User Experience teams.
- Keep communication channels open. Be available for informal discussions.
- Share learning. Aim to empower the development community on User Experience best practices.

- Provide tools and checklists to help development teams with recommendations
- Empower developers with checklists to ensure upgrades and amendments are correctly handled
- Be open to negotiation. Identify solutions that will benefit everyone.

4 Benefits

- Parts of the APRICOT concept have been implemented in a number of projects. Some of the benefits that have emerged are
- Makes the user experience review process more reliable and output predictable: The steps and guidelines of APRICOT provide a framework for feasibility analysis and decision making. This replaces adhoc discussions and general strife. Increased involvement of stakeholders and development teams during initial data gathering ensure that the recommendations are more predictable and don't shock people unnecessarily.
- Increases overall ROI of User Experience reviews: Both the perceived and the actual ROI or UE effectiveness increases. This is primarily because a larger percentage of recommendations get incorporated into the final product.
- Integrates UE as an integral part of the "Team": The APRICOT concept helps in institutionalizing usability within teams and organizations. Teams stop perceiving UE as a good to have service but more of a critical piece for a project's success. A number of developers become evangelists of UE and reduce the pressure on User Experience practitioners to push through recommendations.
- Throws up opportunities to create reusable assets and tools: Apart from providing step by step guidelines to User Experience professionals, the APRICOT process also creates opportunities of creating reusable tools and assets. This further ensures closer ties between the development and User Experience teams.
- Reduces dependency on close physical proximity of User Experience & development teams: User experience teams don't always have to be physically close to development teams to ensure that their recommendations are incorporated. The APRICOT method is an ideal tool to convince and push development teams in a dispersed set up.

5 Conclusion

If 'Need' is the mother of innovation, APRICOT is definitely 'need's' child. The concept has emerged and evolved over a period of time. However the key reason it was born was as follows – as UE practitioners, we were tired of boardroom fights to push our recommendations and see our usability insights get chopped at the proverbial editing table. The APRICOT concept is work in progress. However its early success stories and feedback from usability communities are encouraging. As next steps we are looking at rolling it out to more projects so that more concrete measures can be put in place to capture the actual dollar returns this concept brings to projects and usability practitioners. Effort is also being made to enlarge the scope of this concept

by adding reusable tools and assets to this framework, thus making the process more people independent.

References

1. Molich, R., Jeffries, R., Dumas, J.S.: Making Usability Recommendations Useful and Usable (2007)
2. McQuaid, H.L., Bishop, D.: An Integrated Method for Evaluating Interfaces. In: Proceedings of UPA (2001)
3. Lund, A.M.: Post-Modern Usability (2006)
4. Nielsen, J., Mack, R.L.: Usability Inspection Methods. John Wiley & Sons, Inc., New York (1994)
5. Fadden, S., McQuaid, H.L.: Fixing what matters: Accounting for organizational priorities when communicating usability problems (2003)
6. Schaffer, E.: Institutionalization of Usability: A Step-by-Step Guide. Addison Wesley, Reading (2004)
7. Valdes, R., Gootzit, D.: Usability Drives User Experience; User Experience Delivers Business Value, Gartner Research (2007)
8. Drego. V.L.: Usability Moves Offshore Best Practices For US Firms Working With Usability Team, in India, Forrester Research (2006)