Project Experiences

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ETSN15 Requirements Engineering

Group Gamma - EasyTrip

Contents

1 Elicitation Reflection

1.1 Context diagram

1.1.1 Initial Understanding

We initially created a context diagram from our understanding which we later discovered lacked important entities. This work broadened our knowledge of context diagram and view on work in requirements engineering. We discovered that we didn't know exactly how the product could generate revenue. After some discussion, we concluded that there will be two separate sources; ads and referrals to airline companies.

1.1.2 Identifying Stakeholders

We also had a healthy discussion about which actors were in direct contact with the product. We decided that travel agencies may want to use our product but that it would not be our main target user. It was also concluded that we should offer support and that they would be a stakeholder as well.

From our discussions with our supervisor we learned that there are more stakeholders we need to take into consideration compared to what we previously had listed. This certainly helped the product develop even further and enhance its project description to formulate a clearer goal view.

1.1.3 Purpose of the Context Diagram

We decided to create a context diagram because of two main reasons, firstly it helps us create an architecture for the project that we can later use to describe our different features and relations. Secondly the technique helps narrow down what actors are involved with the product and who the stakeholders are.

1.1.4 Challenges

One challenge we discovered was that the team was not unified on what entities or actors are supposed to be placed in a certain state. Such as that our ad provider is supposed to be inside or outside of the inner domain.

What we recommend for others to do is firstly shorten down your thought process and focus on one aspect at a time. For example, firstly look at direct actors inside the inner domain, and then move on one step at a time to minimize risk of missing components or misplacing entities.

Overall we thought that the method used was very useful in an early stage for elicitation, requirement generation and to get everyone involved on the same page.

1.2 Elicitation

1.2.1 Stakeholder Analysis

The first and main elicitation made was the stakeholder analysis where we identified the stakeholders and their interests. This was done by brainstorming and discussing with the team during exercises in school. We later moved on letter two of the group members to write and deeply analyse the stakeholders.

1.2.2 Traveller Interviews

The second elicitation was of the stakeholder traveller where we interviewed two persons who travels frequently. This was done by two group members and the results were later summarised. We felt that it was a good way of getting a deeper understanding of the user and their needs.

1.2.3 Email Questions - Airlines and Travel Agencies

The third elicitation was the sending of questions by email to the stakeholders airlines and travel agencies. This was done by two group members and the results were later summarised. Happiliy we got a response from one of the airlines, easyJet, which gave us some details but not as much as we hoped for. Although, we felt that the answers were still useful and validated reflections from the stakeholder analysis that was alreadty done. We did ask for a meeting but they declined.

2 Specification Reflection

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3 Initial Challenges Reflection

3.1 Restructured requirements specification

During the development of our requirements specification, we initially structured the document by categorizing requirements into distinct sections such as functional, quality, and data requirements. While this approach provided a clear separation of requirement types as we learned about them in the course, we encountered difficulties in effectively contextualizing them within specific features and functionalities of the system.

To address this, we restructured our requirements specification into sections based on key system areas, such as the heatmap, security, and search functionalities. This new structure allows all relevant requirements, regardless of type, to be included within the appropriate section, making it easier to see how different levels of requirements interact within a particular feature. By organizing the document this way, we have improved traceability, making it more intuitive to understand how individual requirements contribute to the overall system design and objectives. Additionally, this restructuring has resulted in fewer cross-references, simplifying navigation and reducing the complexity of managing related requirements.

Also, we updated our requirement naming convention from numbered identifiers to camelCase IDs. This change enhances clarity and consistency across the document while improving readability and maintainability. The camelCase format ensures that requirement identifiers are more descriptive and making cross-referencing simpler when working with different system components.

These refinements have significantly enhanced the structure and readability of our requirements specification, ensuring that it better supports both development and validation processes.

4 Validation Reflection

4.1 Validation List

What did we learn from making the validation list? Writing a report when validating someone elses work? What feedback did we recieve?

4.2 Prototyping for Validation

Prototyping can play a crucial role in validating our concept for EasyTrip, ensuring that both usability and functionality aligned with user expectations. Since we had already validated the idea during the elicitation phase, the prototyping stage focused on creating a representation of the needs and requirements identified.

4.2.1 Prototyping

First, we developed rough sketches to outline the core functionalities and user flows. These sketches helped visualize the interactions between users and system components early in the process. Our

team discussions refined these ideas before transitioning into digital prototyping.

Next, we created wireframes using Figma to map out key user journeys, including searching for flights, filtering results, and accessing booking options. To simulate interactions more realistically, we wanted to build an interactive prototype incorporating dynamic elements. However, due to time constraints, it resulted in a static prototype without interactions.

Despite not being able to test features, the static prototype allowed us to evaluate the overall layout, navigation, and content structure internally. Feedback gathered from team members provided insights into information clarity and flow, helping us refine key design elements, as well as made sure the team where on the same page and has common expectations of what we were building. The prototype also enabled us to align our vision with stakeholder expectations before committing to full-scale development.

4.2.2 Future Directions and Improvements

To enhance future validation efforts, we propose incorporating interactive elements in the prototypes. One approach is to use dummy data to create a high-fidelity prototype with basic search and filter interactions, allowing for more realistic user testing.

Expanding usability testing to include a diverse group of stakeholders, such as frequent travelers, travel agencies, and airline representatives, would provide a more comprehensive understanding of user needs and potential system constraints.

Additionally, A/B testing different UI layouts, such as list-based search results versus heatmap visualizations, would further refine the interface based on user preferences.

By adopting these improvements, we can bridge the gap between conceptual validation and real-world usability testing, ensuring a more robust and user-centered development process before full-scale implementation.

Individual Contributions

Group Member	**Contributions**
Jonathan Ahlström	?
Ossian Gewert	?
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Simon Persson	?
André Roxhage	?
Felix Sundholm	?