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The importance of functional decomposition in business analysis or product ownership

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Abstract

The article presents analysis of the key concepts of Functional Decomposition Diagram, emphasizing its practical application in the routine tasks of business analysts, product owners, and the technology development process. It offers several advantages of breaking huge complicated functions into small pieces before bringing them to technical team.

Keywords: Functional Decomposition Diagram; Implementation; Stakeholders; Complicated solution; Product ownership; Business analysis; API (Application Programming Interface).

1. Introduction

As a product owner it is vital to delegate what you own and present it in an easy understandable manner, though it can be challenging sometimes. It is important to highlight product's benefits, its values, functional features that form product as a whole technical solution. Functional Decomposition Diagram will be one technique that is useful. This article will highlight why it is beneficial to break complicated solution into smaller piece.

Functional decomposing is a relatively recent method. 'It was first introduced in the field of systems engineering. Over time, its application expanded to the realm of business analysis [2].' Nowadays product or business analysts use this method to break down complex functionalities of solution to reach understanding of what functions target state should have, document them and present those functions to technical teams. It helps to present connections between these pieces visually. This method also helps to track dependencies, or interactions between the systems.

2. When to decompose functionality?

Business analyst or product owners deal with requirements of functionalities and documentation every day. They have to deep dive into what they bring for technical team for implementation. Functionalities of the product may seem to be complicated and difficult to explain, especially for technical audience, as they approach the solution from implementation stand point. Product owner or business analyst may use Functional Decomposition Diagram when they need to:

- Break complex solution into small functions that may be feasible to implement within one iteration.
- Document complex logic for implementation.
- Come up with decision when looking on the overall solution.
- Identify parts that may require deeper analysis.
- Track possible dependencies, engage necessary parties into implementation process.
- Identify possible risk, discuss that with necessary stakeholders.

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- Deal with change management in information technology and address solution in relation to development strategies.

Utilizing Functional Decomposition Diagram in business analysis or product ownership lead technical implementation process in right direction. It helps create visual representation of complex solution and present it step by step to technical teams.

3. Creation of Functional Decomposition and its useful tools

Breaking solution into granual functionalities, defining sub-functions, related functions, dependencies, possible opportunities is valuable approach. Usually it is drawn in the form of a diagram, using such tools as Viso, Figma, Lucichart, Power Point or even in Word.

Decomposing can be done in different levels of granularity. Some solution requires more granular breaking and some partial. It depends on the complexity of what we are braking. For example, for banking or retail spheres when there is data communication between APIs involved (Application Programming Interface), Functional Decomposition may serve as deep dive into complicated logic. An example of such decomposing is presented in Figure 1. It may be useful as a template for development solution when there is change request for logic.

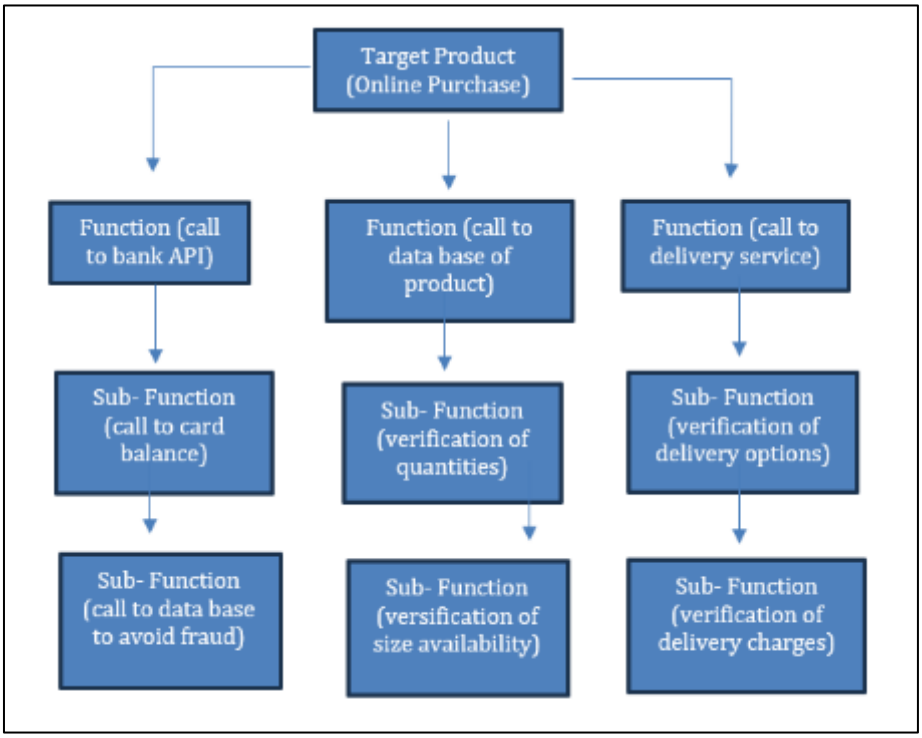

Figure 1 Example of Functional Decomposition Template

This Figure 1 " Example of Functional Decomposition Template" shows that online purchase of product is an example of solution where multiple verifications from the bank, from delivery service, or even from retail are involved. Breaking this solution into smaller pieces allows to understand it better and implement all dependent methods.

Generally, it happens that the agreed solution is very high level, but accepted and given for implementation. 'Breaking down larger components into sub-components allows scaling, tracking, and measuring work effort for each of them. It also facilitates evaluation of the success of each sub-component as it relates to other larger or smaller components [283,1].' Functional decomposing allows to penetrate into details of solution that needs to be implemented.

Functional Decomposition always breaks down complexity. Selection of the tool in which to break depends on when and to whom it is presented.

4. Conclusion

Using Functional Decomposition Diagram as a visual aid in breaking functionality into small pieces is vital technique in business analysis or product ownership. It allows present complex solution to business and to technical team, track dependencies, mitigate risks. By leveraging various diagramming tools, it is possible to capture necessary level of granularity for decomposing. Once adopted in technical process it allows to capture correct approach and use necessary steps that will bring successful project delivery in an outcome.

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