

Elicitation Report

The Process of Eliciting Requirements

Requirements elicitation is a huge step in the earliest phase of a project, and the quality of the requirements can largely reflect the outcome of the product itself. Requirements are what the software is built on and ultimately what the product was designed to satisfy. Sources that help with eliciting requirements can come from different places. Below is a collection of ideas and sources to extract when trying to get a baseline of the scope for your requirements:

- **Goals** - Goals provide the motivation for the software but are often vaguely formulated. Software engineers need to pay particular attention to assessing the value (relative to priority) and cost of goals.
- **Domain Knowledge** - The software engineer needs to acquire or have available knowledge about the application domain. Domain knowledge provides the background against which all elicited requirements knowledge must be set in order to understand it.
- **Stakeholders** - Much software has proved unsatisfactory because it has stressed the requirements of one group of stakeholders at the expense of others. Hence, the delivered software is difficult to use or subverts the cultural or political structures of the customer organization. The software engineer needs to identify, represent, and manage the "viewpoints" of many different types of stakeholders.
- **Business Rules** - These are statements that define or constrain some aspect of the structure or the behavior of the business itself.
- **Operational Environment** - Requirements will be derived from the environment in which the software will be executed. These may be, for example, timing constraints in real-time software or performance constraints in a business environment.
- **Organizational Environment** - Software is often required to support a business process, the selection of which may be conditioned by the structure, culture, and internal politics of the organization. The software engineer needs to be sensitive to these since, in general, new software should not force unplanned change on the business process.

While these are not the only means of sources for eliciting requirements, they are fundamental to the process as a whole. When working on a project one should be able to clearly understand these fundamentals to ensure the project will have a clear path to success.

The Requirements Engineering Process

The requirements engineering process facilitates the elicitation of behavioral requirements because it works to find out what the software is meant to do along with constraints for how it can perform the desired functions. Requirements are building blocks for development and are gathered not only to ensure the project is staying within scope but to ensure the product does exactly what the clients want and expect it to do. Below is a list of great processes to use with your stakeholders and clients when trying to elicit requirements as efficiently as possible.

- **Interviews** - Interview techniques should be used for building strong relationships between business analysts and stakeholders. In this technique, the interviewer directs the question to stakeholders to obtain information. A one-to-one interview is the most commonly used technique.
 - **Focus group** - By using a focus group, you can get information about a product, or service a group. The Focus group includes subject matter experts. The objective of this group is to discuss the topic and provide information. A moderator manages this session.
 - **User observation** - The main objective of the observation session is to understand the activity, task, tools used, and events performed by others.
 - **Document analysis** - used to gather business information by reviewing/examining the available materials that describe the business environment. This analysis is helpful to validate the implementation of current solutions and is also helpful in understanding the business need.
 - **Brainstorming** - used to generate new ideas and find a solution for a specific issue. The members included for brainstorming can be domain experts and subject matter experts. Multiple ideas and information give you a repository of knowledge and you can choose from different ideas.
 - **Questionnaire** - a set of questions is given to stakeholders to quantify their thoughts. After collecting the responses from stakeholders, data is analyzed to identify the area of interest stakeholders.
 - **Prototyping** - Prototyping is used to identify missing or unspecified requirements. In this technique, frequent demos are given to the client by creating the prototypes so that client can get an idea of what the product will look like. Prototypes can be used to create a mock-up of sites, and describe the process using diagrams
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Fundamental Challenges of Requirement Elicitation

There are many problems that are associated with the elicitation of requirements and client needs, including problems with defining the scope of the system, promoting understanding between the various communities affected by the proposed system, and addressing the instability of demand. These problems can create unsustainable needs and cancel program development, otherwise, the development of a system will be considered unsatisfactory or unacceptable, have high repair costs, or will be subject to change. Below I have made a list of things to watch out for when eliciting requirements as they often cause problems during most elicitation processes:

- Understanding large complex system requirements tend to be difficult since there are larger constraints for security and a higher amount of functions
- Unidentified system boundaries can lead the customer to include unrelated and unnecessary functions aside from the important ones, resulting in a higher implementation cost exceeding the budget.
- The stakeholders are not clear about their needs, and sometimes the customers themselves may be unsure of the exhaustive list of functions they wish to see in the software.
- The requirements are conflicting, usually due to two stakeholders having different ideas of what they want the software to look like.

- When a stakeholder is unsure this can lead to frequent requirement changes or a feature creep to occur, while this can be easy with some requirements it is much more difficult to tend to later on in the project.

There are many other challenges that follow working with stakeholders during requirement elicitation but the ones above are sadly more common than to be expected. It is important to remember that a client is often times, not an engineer meaning they are out of touch with what makes a requirement feasible. Requirements engineering requires you to work with the client to express what can and can't be done.

My Elicitation Process for The Commons Beach Club:

Intro to the two concepts

Elicitation Fundamentals

- **Goals:** As the Commons Beach Club (CBC) has increased the number of active memberships within the organization, the ability to work efficiently, methodically, and organized has decreased. The current system to store user information is chaotic, complex, and ineffective. Creating a new membership system would replace the current system's features while aiding in its data storage and retrieval time complexity, lack of features, and overall user interface. Currently, the CBC does not have any tools to analyze membership statistics that would allow them to understand things like peak business hours, parking limitations, and beach space. The overall objective goal of this system is to make it easier on the employees and members by creating a database that allows for real-time statistical analysis.
- **Stakeholders:**
 - Active Gold Tier Club Members - Members will not directly use the software but are indirect users as they pay for their membership, and their data is what will be stored in the system. (Customers)
 - Board of Directors - The board of directors will oversee the development and will be the main source of defining requirements. (Shareholders)
 - Dawn Manzatti (Director) - The Director of Operations has direct usage of the data derived from the software, and is considered a user of the system. (Employee)
 - Garret Stone (Assistant Director) - The Assistant Director will use the software as a direct user to derive statistics for employee scheduling. (Employee)
 - Beach Club Employees - Employees who work the operational side of the club have a direct stake in the system as they will be the users of the system itself. (Employees)
- **Business rules:**
 - When the property reaches capacity the gate will be closed and cars will be put into a queue, where the next party may enter the property once a separate party leaves.
 - Employees will be expected to abide by membership policies when checking in parties on location.
 - There is no special treatment for any member regardless of status, all members and their parties must follow the rules and policies stated in their membership agreement.
 - The data analytics system will only be used by those staff deemed to be in a management position.
 - Employees are expected to abide by the correct policy when charging members for reservations or snack bar items.
- **Operational Environment:**
 - The Commons Beach Club operates on Bonita beach, meaning the system must understand the constraints of glare, poor weather, and the hardware not being high quality.
- **Organizational Environment:**
 - A Gold Standard Member account allows the member to include their direct family members on the membership, but only direct family will not be charged guest fees.
 - Members are limited to 6 guests and there is a \$15 guest fee for each guest at check-in.
 - Guest fees are only charged between 9 AM - 5 PM
 - Members must reserve pavilions for any event.
 - Member parties are limited to 2 pieces of furniture per party member.
 - There is no reservation for beach furniture, it is on a first-come-first-served basis.

How I used solicitation techniques

Solicitation:

- **Interviews** -I had an interview with Garret Stone with the questions below
 - **What things would you like to change about the current system in place?**

The reason we would want to change the current system is that the layout is outdated and the software itself is not simplistic or visually appealing. When we want to see a log of how many members have checked in it takes about 30 minutes for a sheet of paper to be printed, and we no longer want to print the sheets of paper as this can be costly. We also want to integrate an online reservation system since we keep a physical book of reservations. Lastly, we would like to fix the general UI so it is less complicated for new employees to use the system.

- **What kind of features would you like that are not currently used in the system?**

I would personally like to have a better statistical idea of what is going on in terms of member activity, that way I can come to my lead manager and express to her about staffing when or how many employees we should have for different times of the season. Having these kinds of understandings would be great, as well as being able to see things about the members while checking them in like their membership status in terms of activity and whatnot.

- **What is the most important purpose of the system?**

As a base the whole point is to keep track of memberships to ensure those who come to the club are supposed to be there, that is number one. Secondly, employees should be able to charge them for any extra services like guests or food or anything in

between. Lastly, the employees must be able to commit reservations to ensure that we are not overbooked. Anything else is tertiary to the system, without these three functions, the club itself will be in scrambles during the season.

- **How would the system work under high-intensity days of operation?**

The system must be able to perform the three things that we talked about before at a minimum, but also possibly giving members capacity statistics would be great based on the rate that members are checking in to the club, maybe there could be some sort of live count on the club's website.

- **What features come to mind as a bonus and not a necessity?**

I think statistical evidence would be great but obviously, the core functions would be check-in, reservations, and charging.

Although I would love statistical analysis the beach club is not something that needs to be rocket science, but data is always a beautiful tool when maximizing efficiency, especially in the world of hospitality.

- **User observation -**

When I visited the location where the current system is in place, I talked to employees, management, and members to see how they felt about the current system. The unanimous idea between the members and management is that the current UI needs to be improved and the current system should be built more around using touch screens. Most of the members felt as if the current system for check-in is not very fast and it takes a lot of time for employees to get their information correctly. The management also wanted a better visibility version of the logs they currently have for members who checked in that day. Using these observations I was able to build a proper mockup and prototype seen below.

- **Prototyping**

The mockup can be found below

[Mockup](#)