



BUSINESS ANALYSIS TECHNIQUE:
INTERFACE ANALYSIS

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INSIGHT









What Is an Interface?

The Collins English Dictionary defines an interface as the point where two subjects or systems connect, interact, or influence each other.¹

Simply put, interfaces define how a solution interacts with the external operating environment and how its components or systems communicate. Interfaces are either external or internal.

Examples of Interfaces

System interaction can be described at various levels and encompasses diverse aspects of communication. As such, different interface types must be considered. These include but are not limited to:

-  User interactions with software
-  Application Programming Interfaces (APIs) between system components and third-party applications
-  Cooperation between business stakeholders
-  The relationship between organizational departments
-  The integration of business processes
-  The interoperability of hardware devices





The types of interfaces a business analysis professional should consider depend on the unique characteristics of the initiative.

Regarding software systems development, user interactions and APIs are usually the most important and should be described within the scope of requirements definition. See more details about software development interface types in the **Software Development Interface Types** document.

Steps to Successful Interface Analysis

Regardless of the type, discussing interfaces always involves exploring information exchange flows, which allows common approaches to be applied to their analysis.

In practice, interface analysis can be split into four steps:

-  1. Preparation for interface analysis
-  2. Interface identification
-  3. Interface definition
-  4. Interface evaluation

Let us explore each step in detail.



Step 1: Preparation for Interface Analysis

Most solutions and their components communicate differently and require an understanding of multiple interfaces. In the first step, a business analysis professional should elicit the list of interfaces to be defined. This requires examining the main communication methods and critical data paths.

It is especially helpful to answer the Five Ws on information exchange:

- **Who** participates in the information exchange?
- **What** specific information is exchanged between parties?
- **Why** is this information important?
- **Where** and **when** is the information used?

The results of the research should be carefully inspected, evaluated, and classified to prepare the list of interfaces to be refined in the next steps. Working from this list, a business analysis professional should investigate the system from various perspectives and review the requirements of different stakeholders.

Some interfaces can be easily detected, but others are less obvious. To ensure no critical requirements are overlooked, a business analysis professional must review both functional and non-functional requirements (NFRs), as these may also need specific interfaces. Consider the following (non-exhaustive) list of NFRs:

- System compatibility
- Auditing
- Standards compliance
- Localization
- Transition requirements



Step 2: Interface Identification

Next, a business analysis professional should proceed with interface identification, eliciting more details for each. The basic tasks at this stage are:

- Describe the functions of the interface
- Specify the basic use cases with the main and alternative flows
- Assess the business rules for data control
- Evaluate the appropriate type of data

Elaborating on the NFRs remains important at this step. In addition to the items listed for the previous step, valuable input from NFR analysis includes:

- Specific frequency of the interface usage
- Evaluation of the volumes of data processed
- Interface availability and accessibility
- Supportability requirements
- Maintainability requirements

And any others relevant to the needs of the initiative.



Step 3: Interface Definition

The next step of interface analysis is interface definition. The goal of this phase is to review, synthesize, and refine the information collected earlier, producing a clear and comprehensive interface description.

The Five Ws technique can also be useful here, as the descriptions should give more precise answers about each interface:

- **Why** is the interface required, what is the goal, and what are its functions?
- **Who** (what types of users) will use the interface and who (what types of stakeholders) will benefit from it?
- **What** are the inputs and outputs and the basic validation rules governing them?
- **When** and **where** does interaction happen and what events can trigger it, including main and alternative flows as well as exceptional events such as failures?

The output of this phase is interface specification, which will serve as the basis for interface implementation.

Discover how to create an efficient and valuable interface specification in the **Interface Specification Document**.



Step 4: Interface Evaluation

Like all evaluations, interface evaluation includes activities such as performance assessments, tests, and experiments. It may combine both objective and subjective assessments of solution value. It is crucial to involve the right executors, especially at the results evaluation stage. Participants in evaluation activities should be selected during stakeholder analysis.

Interface evaluation should lead to recommending actions that enhance solution value and adapt the solution to changes in the environment. As a result, new requirements for interface improvements and the development of new interfaces may arise.

Dos and Don'ts When Performing Interface Analysis

Interface analysis helps coordinate end-to-end solution management. It is an important activity incorporated in all business analysis knowledge areas. Here are some tips on how to perform it efficiently:

Dos:

- ✓ Keep interface requirements in mind throughout the entire requirements life cycle and integrate this analysis into other business analysis activities
- ✓ Analyze the system from different perspectives to elicit possible hidden interface demands
- ✓ Perform interface analysis alongside other business analysis techniques—for guidance on selecting the right technique, see the Interface Analysis Techniques document
- ✓ Consider NFRs
- ✓ Apply an iterative process to achieve the necessary level of detail
- ✓ Focus on how elements interact with their environments, not on how elements are implemented
- ✓ Examine the interfaces of the existing solution, if applicable
- ✓ Regularly perform interface evaluations to adapt to environmental changes
- ✓ During stakeholder analysis, identify the appropriate stakeholders to discuss relevant questions and cooperate with them
- ✓ Describe requirements without specifying a solution, allowing the implementation team to make technical decisions while challenging them to meet business demands
- ✓ Learn best practices and industry standards and apply them

Don'ts:

- ✗ Don't rely on information without validating it
- ✗ Avoid documenting more than is necessary

Conclusion

Interface analysis is an important part of the solution requirements definition process. It is impossible to imagine a system that does not communicate with the external world or has no cooperation between components. Thus, interface analysis is crucial in refining solution requirements, ensuring interoperability, and simplifying integration.

Work on interfaces should begin at the initial stage of requirements analysis. Early interface detection reveals the solution beneficiaries. It also allows a business analysis professional to plan the next elicitation phase, decide which stakeholders should be involved in it, and perform requirements definition efficiently.

However, interface analysis focuses on external communications and does not offer an understanding of solution implementation. Thus, it should be combined with other techniques that provide insights into the internal aspects of the solution.

References

1. Collins Dictionary. "Interface." 2025.