

Nama: _____

Nama Mitra: _____

Establishing Requirements (2)

Non-Functional (Interaction) Requirements

Metode Instruksional: WORK IN PAIRS

PETUNJUK: Pada kegiatan ini Anda diminta untuk menangani Requirements terkait pemesanan tiket bioskop secara online. Perhatikan beberapa bagian Volere Requirements Template yang berhubungan dengan Non-Functional Requirements berikut ini. Lalu gunakan untuk menentukan Non-Functional Requirements untuk aplikasi pemesanan tiket bioskop.

<http://www.volere.co.uk/template.htm>

10. Look and Feel Requirements

Nonfunctional requirements (sections 10-17) are the properties that the functions must have, such as performance and usability. Do not be deterred by the unfortunate type name (we use it because it is the most common way of referring to these types of requirements)—these requirements are as important as the functional requirements for the product's success.

- 10a. Appearance Requirements
- 10b. Style Requirements

11. Usability and Humanity Requirements

This section is concerned with requirements that make the product usable and ergonomically acceptable to its hands-on users.

- 11a. Ease of Use Requirements

Content

This section describes your client's aspirations for how easy it is for the intended users of the product to operate it. The product's usability is derived from the abilities of the expected users of the product and the complexity of its functionality.

The usability requirements should cover properties such as these:

- Efficiency of use: How quickly or accurately the user can use the product.
- Ease of remembering: How much the casual user is expected to remember about using the product.
- Error rates: For some products it is crucial that the user commits very few, or no, errors.

- Overall satisfaction in using the product: This is especially important for commercial, interactive products that face a lot of competition. Web sites are a good example.
- Feedback: How much feedback the user needs to feel confident that the product is actually accurately doing what the user expects. The necessary degree of feedback will be higher for some products (e.g., safety-critical products) than for others.

Motivation

To guide the product's designers toward building a product that meets the expectations of its eventual users.

Examples

The product shall be easy for 11-year-old children to use.

The product shall help the user to avoid making mistakes.

The product shall make the users want to use it.

The product shall be used by people with no training, and possibly no understanding of English.

Fit Criterion

These examples may seem simplistic, but they do express the intention of the client. To completely specify what is meant by the requirement, you must add a measurement against which it can be tested—that is, a fit criterion. Here are the fit criteria for the preceding examples:

Eighty percent of a test panel of 11-year-old children shall be able to successfully complete [list of tasks] within [specified time].

One month's use of the product shall result in a total error rate of less than 1 percent.

An anonymous survey shall show that 75 percent of the intended users are regularly using the product after a three-week familiarization period.

Considerations

Refer to section 3, Users of the Product, to ensure that you have considered the usability requirements from the perspective of all the different types of users.

It may be necessary to have special consulting sessions with your users and your client to determine whether any special usability considerations must be built into the product.

You could also consider consulting a usability laboratory experienced in testing the usability of products that have a project situation (sections 1–7 of this template) similar to yours.

Form

The form that you use to capture and maintain your atomic requirements (functional, non-functional and constraint) depends on the tools that you have available to you. Volere snow cards are often a useful aid to help you in discovering requirements but, due to volume and need to be able to make changes, some kind of automated form is the best way to manage and maintain your atomic requirements.

Common forms for atomic requirements are:

- A spreadsheet (a sample is included with this template)
- A database provided with whatever requirements tool/s you have available. There is a wide variety of tools on the market, refer to <http://www.volere.co.uk/tools> for a list
- An intranet set up by you to maintain and make accessible the atomic requirements and their attributes
- A custom built database

Whatever form you use to record and maintain your requirements, it is important to be consistent with your numbering and terminology so that you can check for completeness and respond to change.

- **11b. Personalization and Internationalization Requirements**

Content

This section describes the way in which the product can be altered or configured to take into account the user's personal preferences or choice of language.

The personalization requirements should cover issues such as the following:

- Languages, spelling preferences, and language idioms
- Currencies, including the symbols and decimal conventions
- Personal configuration options

Motivation

To ensure that the product's users do not have to struggle with, or meekly accept, the builder's cultural conventions.

Examples

The product shall retain the buyer's buying preferences.

The product shall allow the user to select a chosen language.

Considerations

Consider the country and culture of the potential customers and users of your product. Any out-of-country users will welcome the opportunity to convert to their home spelling and expressions.

By allowing users to customize the way in which they use the product, you give them the opportunity to participate more closely with your organization as well as enjoy their own personal user experience.

You might also consider the configurability of the product. Configurability allows different users to have different functional variations of the product.

- **11c. Learning Requirements**

Content

Requirements specifying how easy it should be to learn to use the product. This learning curve ranges from zero time for products intended for placement in the public domain (e.g., a parking meter or a web site) to a considerable amount of time for complex, highly technical products. (We know of one product where it was necessary for graduate engineers to spend 18 months in a training program before being qualified to use the product.)

Motivation

To quantify the amount of time that your client feels is allowable before a user can successfully use the product. This requirement guides designers to understand how users will learn the product. For example, designers may build elaborate interactive help facilities into the product, or the product may be packaged with a tutorial. Alternatively, the product may have to be constructed so that all of its functionality is apparent upon first encountering it.

Examples

The product shall be easy for an engineer to learn.

A clerk shall be able to be productive within a short time.

The product shall be able to be used by members of the public who will receive no training before using it.

The product shall be used by engineers who will attend five weeks of training before using the product.

Fit Criterion

An engineer shall produce a [specified result] within [specified time] of beginning to use the product, without needing to use the manual.

After receiving [number of hours] training a clerk shall be able to produce [quantity of specified outputs] per [unit of time].

[Agreed percentage] of a test panel shall successfully complete [specified task] within [specified time limit].

The engineers shall achieve [agreed percentage] pass rate from the final examination of the training.

Considerations

Refer to section 2d, Hands-on Users of the Product, to ensure that you have considered the ease of learning requirements from the perspective of all the different types of users.

- **11d. Understandability and Politeness Requirements**

This section is concerned with discovering requirements related to concepts and metaphors that are familiar to the intended end users.

Content

This specifies the requirement for the product to be understood by its users. While “usability” refers to ease of use, efficiency, and similar characteristics, “understandability” determines whether the users instinctively know what the product will do for them and how it fits into their view of the world. You can think of understandability as the product being polite to its users and not expecting them to know or learn things that have nothing to do with their business problem.

Motivation

To avoid forcing users to learn terms and concepts that are part of the product’s internal construction and are not relevant to the users’ world. To make the product more comprehensible and thus more likely to be adopted by its intended users.

Examples

The product shall use symbols and words that are naturally understandable by the user community.

The product shall hide the details of its construction from the user.

Considerations

Refer to section 2d, Hands-on Users of the Product, and consider the world from the point of view of each of the different types of users.

- **11e. Accessibility Requirements**

Content

The requirements for how easy it should be for people with common disabilities to access the product. These disabilities might be related to physical disability or visual, hearing, cognitive, or other abilities.

Motivation

In many countries it is required that some products be made available to the disabled. In any event, it is self-defeating to exclude this sizable community of potential customers.

Examples

The product shall be usable by partially sighted users.

Considerations

Some users have disabilities other than the commonly described ones. In addition, some partial disabilities are fairly common. A simple, and not very consequential, example is that approximately 20 percent of males are red-green colorblind.

12. Performance Requirements

- **12a. Speed and Latency Requirements**
- **12b. Safety-Critical Requirements**
- **12c. Precision or Accuracy Requirements**
- **12d. Reliability and Availability Requirements**
- **12e. Robustness or Fault-Tolerance Requirements**
- **12f. Capacity Requirements**
- **12g. Scalability or Extensibility Requirements**
- **12h. Longevity Requirements**

13. Operational and Environmental Requirements

- **13a. Expected Physical Environment**
- **13.b. Wider Environment Requirements**
- **13c. Requirements for Interfacing with Adjacent Systems**
- **13d. Productization Requirements**
- **13e. Release Requirements**

14. Maintainability and Support Requirements

- **14a. Maintenance Requirements**
- **14b. Supportability Requirements**
- **14c. Adaptability Requirements**

15. Security Requirements

- **15a. Access Requirements**
- **15b. Integrity Requirements**
- **15c. Privacy Requirements**
- **15d. Audit Requirements**
- **15e. Immunity Requirements**

16. Cultural Requirements

- **16a. Cultural Requirements**

17. Compliance Requirements

- **17a. Legal Compliance Requirements**
- **17b. Standards Compliance Requirements**

Silakan tuliskan di sini elaborasi *Non-Functional Requirements* dari aplikasi yang dimaksud.

