

# Introduction to Matrix

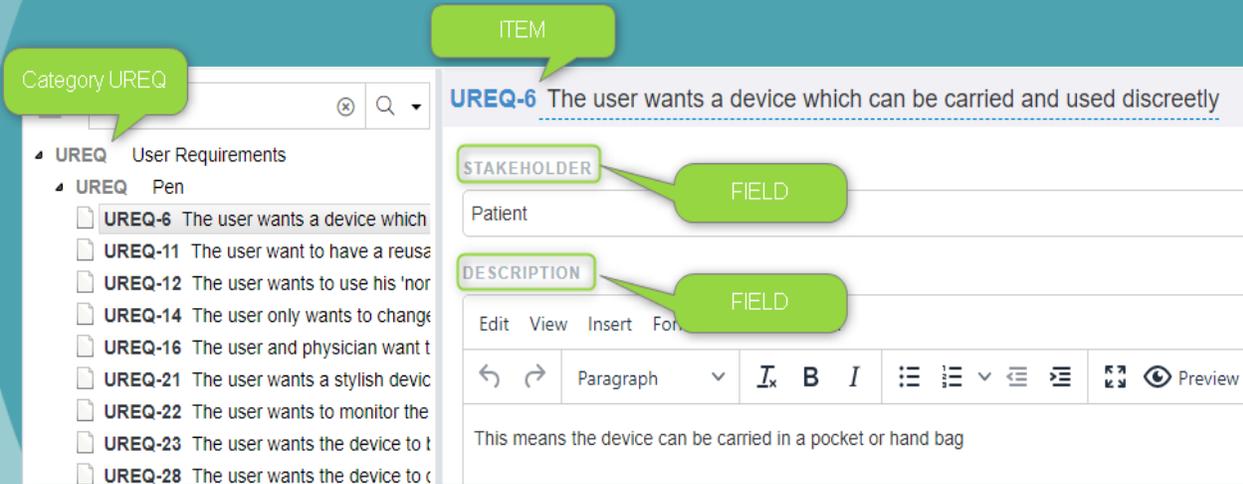
What do we call things?



# ITEMS, FIELDS & CATEGORIES

Matrix is designed to store pieces of structured information in a database.

- Each piece of information we call an ITEM
- Each item consists of several FIELDS
- A CATEGORY defines which fields exist in an item and groups them together



The screenshot displays the Matrix Requirements software interface. On the left, a tree view shows a category named 'UREQ' containing a sub-category 'User Requirements', which in turn contains a sub-category 'Pen'. Under 'Pen', several user requirements are listed, including 'UREQ-6 The user wants a device which can be carried and used discreetly'. A green callout bubble labeled 'Category UREQ' points to the top-level category. On the right, the detailed view of 'UREQ-6' is shown. It features a title bar with the requirement text. Below the title, there are two fields: 'STAKEHOLDER' with the value 'Patient' and 'DESCRIPTION' with the value 'This means the device can be carried in a pocket or hand bag'. Green callout bubbles labeled 'ITEM' and 'FIELD' point to the requirement title and the field labels respectively. A rich text editor toolbar is visible below the description field.

# ITEMS, FIELDS & CATEGORIES



The screenshot displays the Matrix Requirements software interface. On the left, a tree view shows a hierarchy of user requirements under the category 'UREQ User Requirements'. A specific requirement, 'UREQ-6 The user wants a device which can be carried and used discreetly', is selected. The main area shows the details for this requirement. It has a 'STAKEHOLDER' field with the value 'Patient' and a 'DESCRIPTION' field with the text 'This means the device can be carried in a pocket or hand bag'. The interface includes a search bar, a list of requirements, and a rich text editor for the description.

Category UREQ

ITEM

UREQ-6 The user wants a device which can be carried and used discreetly

STAKEHOLDER FIELD

DESCRIPTION FIELD

Edit View Insert Format

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This means the device can be carried in a pocket or hand bag

🕒 You might have a category, for **User Requirements**, which

- Is defined using a **unique prefix** for all user requirements, say UREQ
- Is structured using different **fields** to **detail** each user requirement, for example, with a drop-down menu for the stakeholder and a description

🕒 The database will have several user requirements for your product

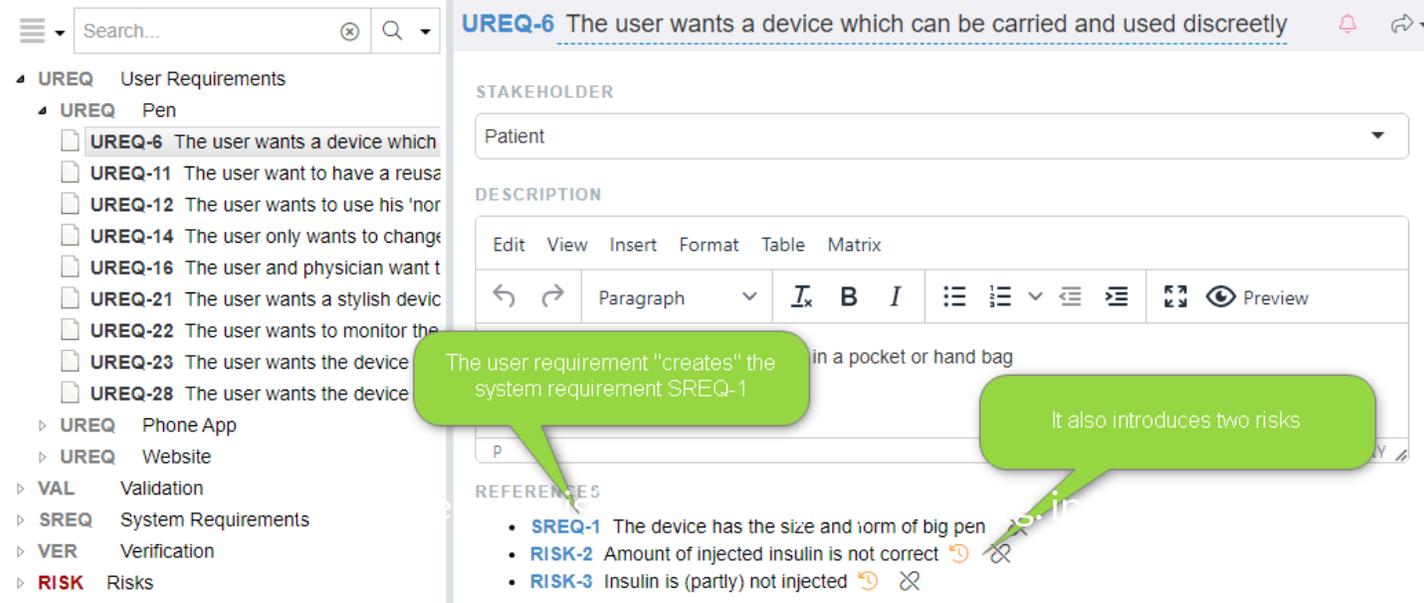
**UREQ-1, UREQ-2, UREQ-3, ...**

🕒 These are stored in a tree structure to allow you to easily group and find them

# TRACEABILITY

- 📍 In a typical database you have many different categories with relationships between them
- 📍 These are expressed as TRACEABILITY rules
- 📍 There are UP TRACES and DOWN TRACES

- The up or down designates the ‘direction’ of a trace, e.g., if you have a user requirement you will need to break it down into system requirements.
- In Matrix, you would for example define a trace rule that “a UREQ must have a trace to SREQ”. UREQ → SREQ is therefore a down trace.
- Usually if there is a **down trace** there is one in other direction which is called an **up trace**, e.g., “a system requirement is derived from a user requirement” UREQ ← SREQ



The screenshot shows the Matrix Requirements tool interface. On the left, a tree view displays a hierarchy of requirements: UREQ (User Requirements) - Pen, UREQ-6 (The user wants a device which...), UREQ-11 (The user want to have a reuse...), UREQ-12 (The user wants to use his 'nor...), UREQ-14 (The user only wants to change...), UREQ-16 (The user and physician want t...), UREQ-21 (The user wants a stylish devic...), UREQ-22 (The user wants to monitor the...), UREQ-23 (The user wants the device...), UREQ-28 (The user wants the device...), UREQ (Phone App), UREQ (Website), VAL (Validation), SREQ (System Requirements), VER (Verification), and RISK (Risks).

The main panel displays the details for UREQ-6: "The user wants a device which can be carried and used discreetly". The stakeholder is "Patient". The description is "The user requirement 'creates' the system requirement SREQ-1 in a pocket or hand bag". The references section lists:
 

- SREQ-1 The device has the size and form of big pen
- RISK-2 Amount of injected insulin is not correct
- RISK-3 Insulin is (partly) not injected

Two green callout boxes provide additional context:
 

- One points to the description: "The user requirement 'creates' the system requirement SREQ-1"
- Another points to the risks: "It also introduces two risks"

# DOCUMENTS

- 📄 **Documents** help you to get data from the **database** into **PDFs, Word or Excel**
- 📄 They can be records, plans, reports, minutes, ...
- 📄 Documents are stored in the **CATEGORY DOC**
- 📄 Each Document contains several **SECTIONS** that can be
  - Just some text, a checkbox etc.
  - or the content of **ITEMS** in lists or tables
- 📄 To **freeze the content** of a **DOC** it is converted into **SIGN items** which can be **electronically signed** but otherwise won't change if the database items inside are changed

# SUMMARY

**CATEGORY** → *Defines which fields exist for an item*

**ITEM** → *A database entry with several fields*

**FIELD** → *Holds some information as part of an item*

**TRACEABILITY** → *Links between items*

**DOC** → *A document to print the content of items*

**SIGN** → *An electronical signed document*

**SECTION** → *A specific type of paragraph composing a document*