19 QUERYING WITH DIFFERENT SEARCH KEYS

In this example, two situations are dealt with in which the option exists to retrieve data with different criteria.

19.1 Combination of unique and non-unique search criteria

Problem description

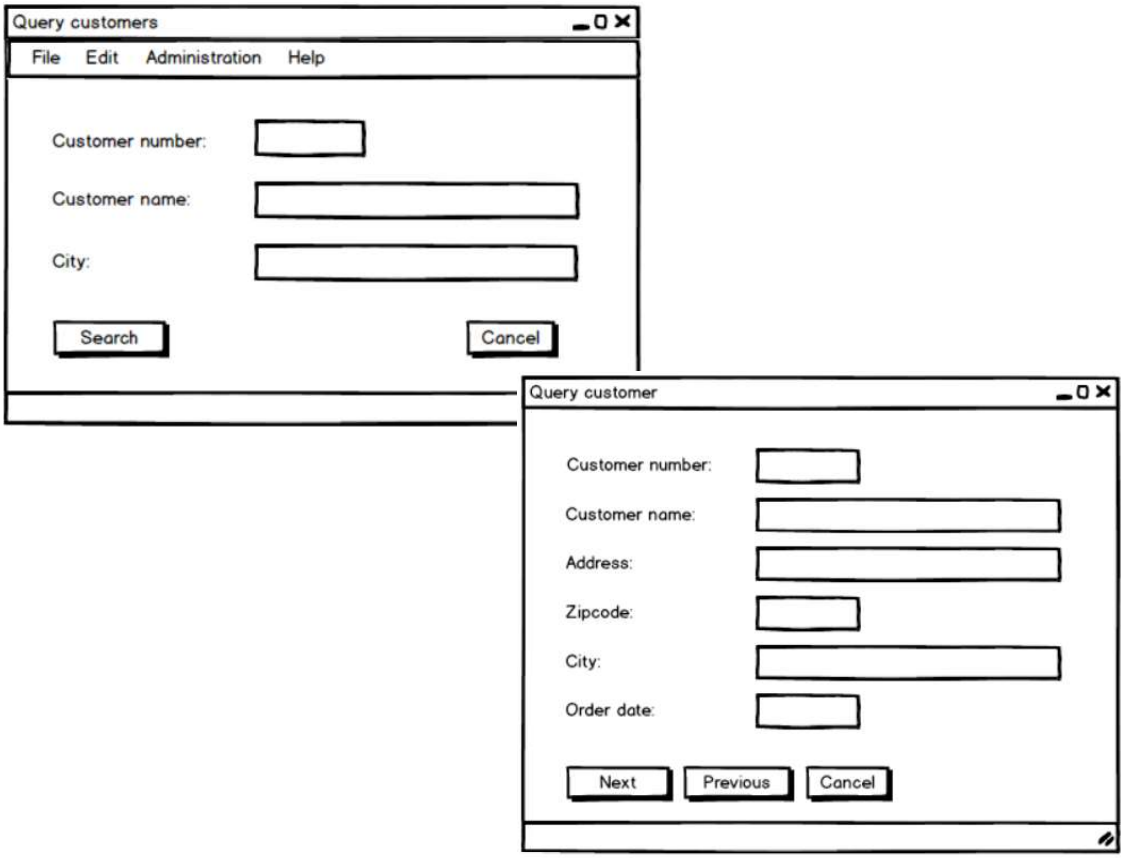
When a unique Customer Number is entered into the function *Query Customers*, data about the customer attached to that number will appear on the screen. The buttons Next and Previous are not active when this is done.

If a Customer Name (or part of a Customer Name) is entered, all customers with that particular name are retrieved. However, only the first customer with this name is displayed on the screen. When the name of a City is also entered, only those customers that reside there are selected.

If only the city is entered, then all the customers from that city are selected.

The buttons *Next* and *Previous* allow the user to browse forward or backwards through the customers selected.

How many and what type of functions should be counted?



Discussion

In this case, the user has the option to enter either the customer number or the customer name, and may even combine the customer name with the city. Two exclusive or separate selections are possible, each of which is considered an individual function.

Querying by customer number is an external inquiry. The size of the output is fully determined: namely, all data about a particular customer.

The external inquiry consists of seven data element types: customer number (twice), customer name, address, zip code, city, and order date. Besides the error message and the *Search* button are counted. Total number is nine data-element-types.

Querying by (a part of a) customer name and/or by city is an external output. The output varies in size because the number of customers that will be selected is not known beforehand. In this case, there is only one external output because the user has more options in which the selections he makes do not exclude each other (i.e., an and/or situation).

Ten data element types determine the function's complexity: customer number, customer name (twice), address, zip code, city (twice), and order date plus the error message and the *Search* button.

The buttons *Next* and *Previous* are used to navigate through the output and are therefore not counted as additional functions or data element types.

Solution

Count one external inquiry with nine data element types for querying by customer number.

Count one external output with ten data element types for querying by customer name and/or by city.

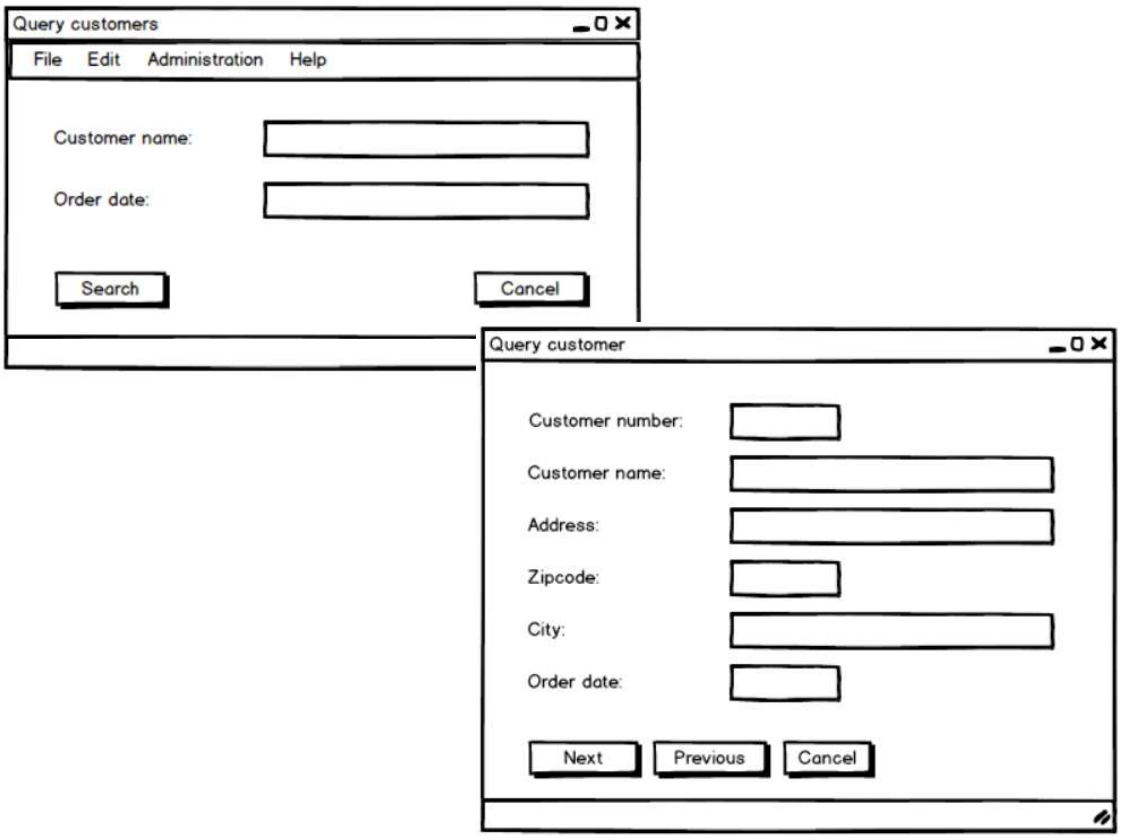
References to the standard

4.23, 8.2.a, 8.2.c, 8.2.q, 8.3.a, 8.3.b, 8.3.g, 9.2.h and 9.3

19.2 Combination of non-unique search keys

Problem description

An application has the two screens below at its disposal.



The user can query the data of a customer either via *Customer Name* or via *Order Date*.

The buttons *Next* and *Previous* allow the user to move to a following or a previous customer that meets the selection criterion.

How many external outputs and/or external inquiries are present here?

Discussion

The output for querying by name varies in size because it is not known beforehand how many customers are selected.

The size of the output for querying by order date is also variable and cannot be predicted. The logical processing is different for both queries.

Two individual external outputs should be counted because the user must choose between querying by name and querying by order date. A combination is not an option.

The Next and Previous button are used to navigate through the output and are therefore not counted as additional functions or as data element types.

Solution

Count one external output with eight data element types for querying by name (the seven data element types are customer number, customer name (twice), address, zip code, city, and order date plus the activation button)

Likewise, count one external output with eight data element types for querying by order date.

References to the standard

4.23, 8.2.a, 8.2.c, 8.2.q, 8.3.a, 8.3.b and 8.3.g