

A FIRST APPROACH TOWARDS PERSVASIVE COMPUTING USING CURRENT TOOLS- A REAL EXAMPLE

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REAL IMPLEMENTATION OF A SYSTEM THAT EMPOWERS THE TRAVELING PROFESSIONAL THROUGH THE USE OF CURRENT TOOLS AND MOBILE PLATFORMS. A BOOK SELLING SYSTEM WAS DEVELOPED AND DEPLOYED IN A SERVER TOGETHER WITH A POCKET PC 2003 ENABLED PDA SYSTEM

MOBILE COMPUTING

MICROSOFT POCKET PC 2003

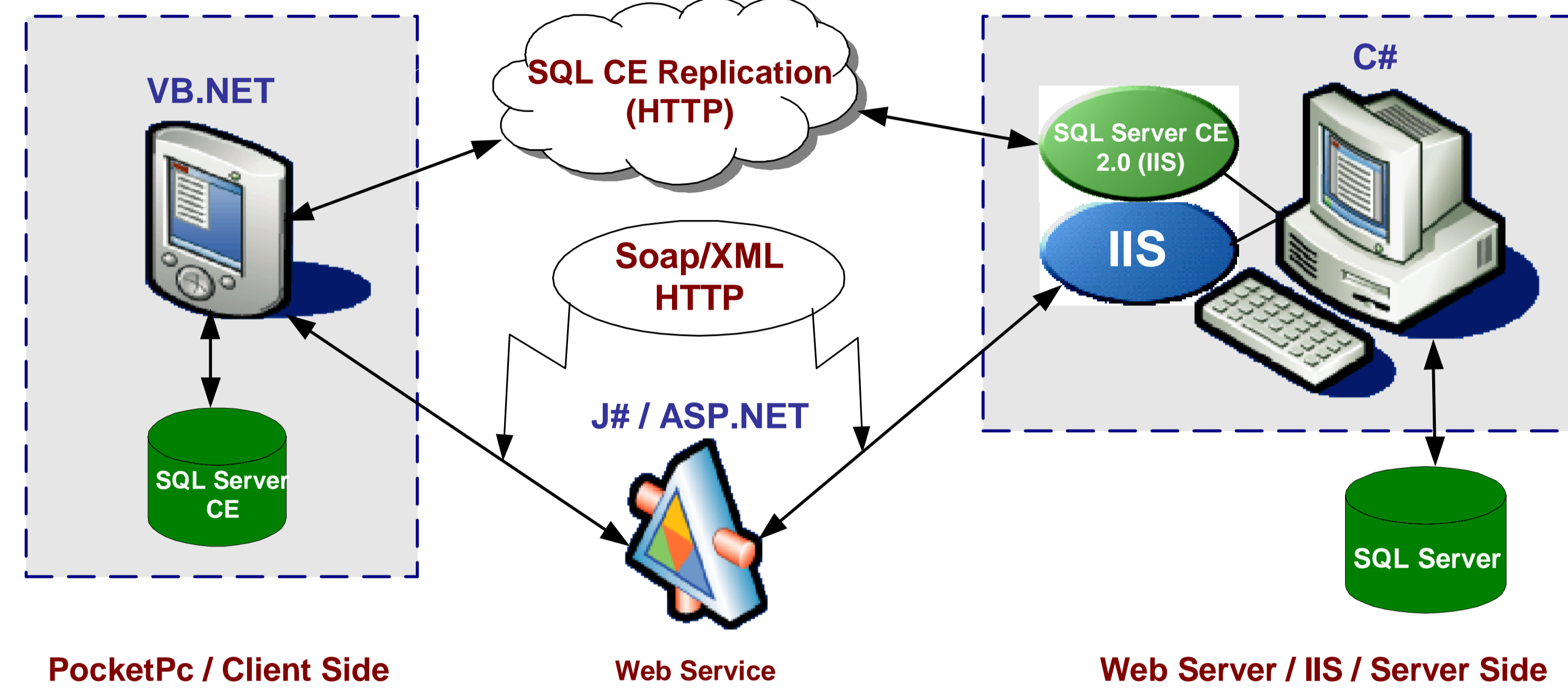
.NET

SQL SERVER / SQL SERVER CE

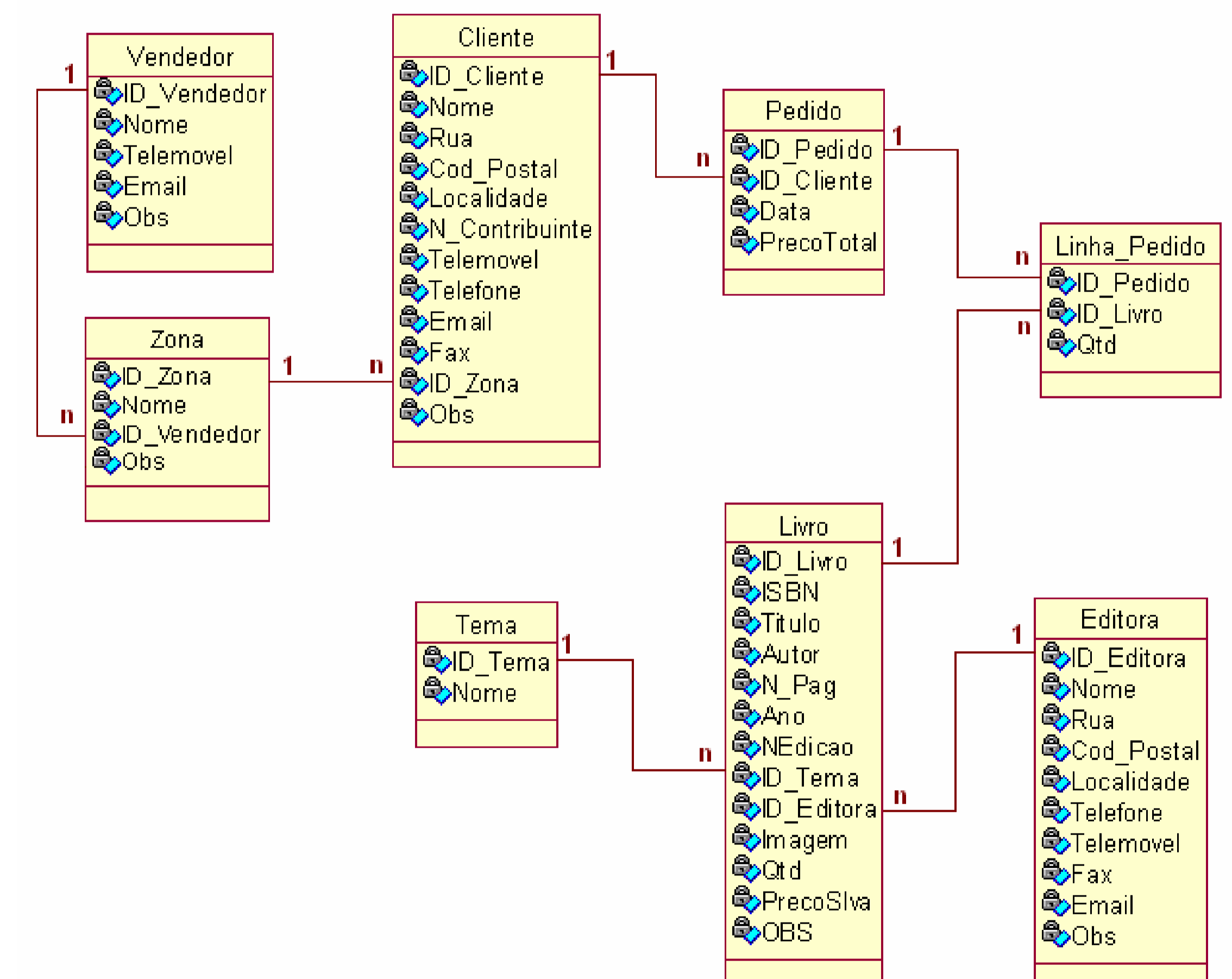
WEB SERVICE

SPECIAL POINTS OF INTEREST:

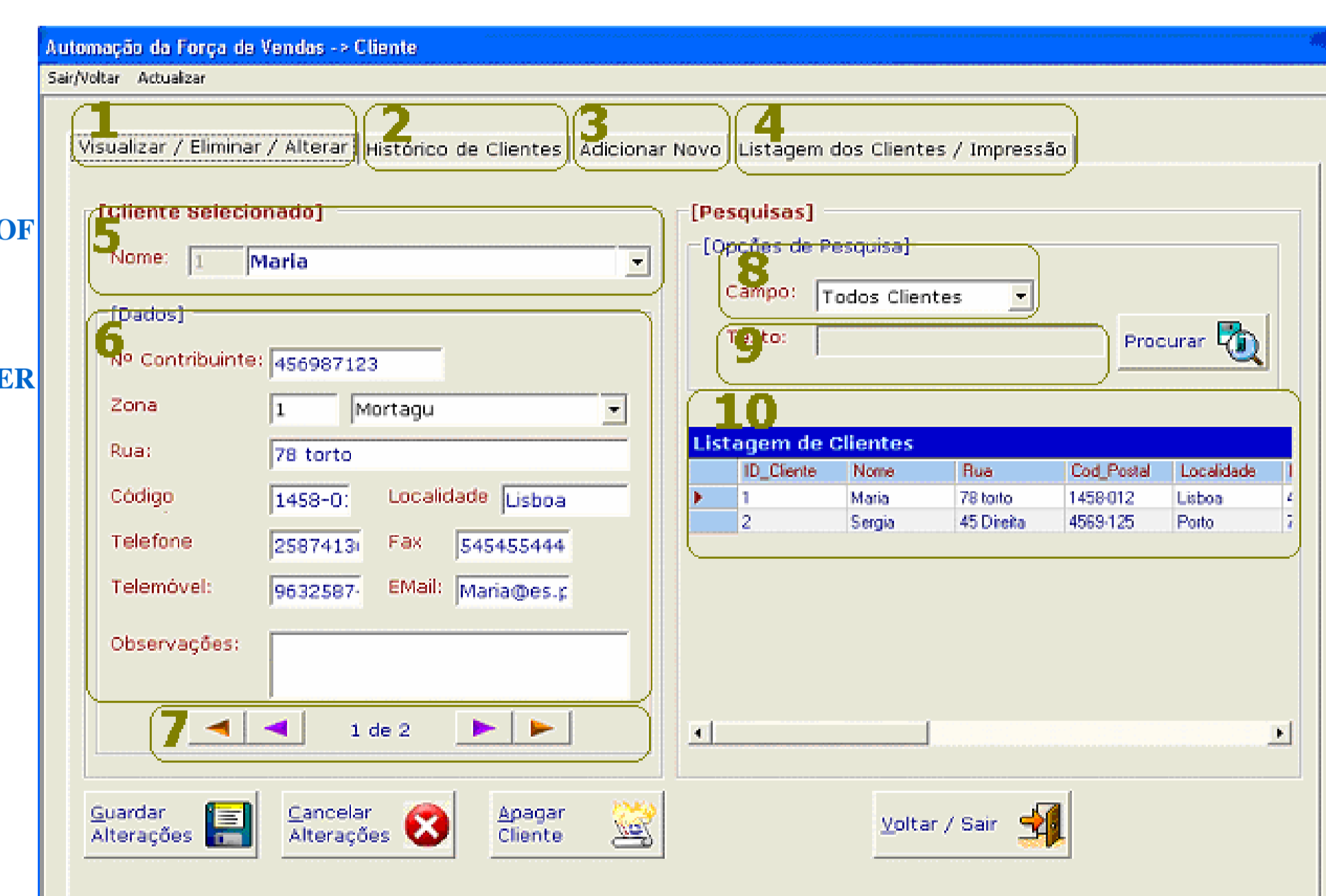
- . An application that powers the mobile professional
- . Real use, bookselling application
- . PDA enabled system
 - . HP 4150
 - . Pocket PC 2002
- . Web Service consumption
 - . Local database and synchronization service
 - . Visual Basic with OO paradigm
- . Server side
 - . Global database
 - . Web Service for search of missing records on local database (PDA)



- . SERVER DATABASE CONTAINS THE TOTAL DATA OF THE APPLICATION
- . REMOTE (CLIENT) DATABASE CONTAINS A LIMITED COPY OF THE SERVER DATABASE
- . THE REPLICATION MECHANISM ASSURES THAT THE LATEST AVAILABLE DATA IS CONSISTENT AMONG THE CENTRAL AND DISTRIBUTED DATABASE, KEEPING DATA ALWAYS AVAILABLE
- . THE WEB SERVICE PROVIDES A LOW-TRAFFIC MEANS TO CONDUCT SIMPLE SEARCHES OVER THE MAIN DATABASE ON THE SERVER SIDE, WHERE THE REMOTE (CLIENT) DATABASE LACKS



- . SERVER INTERFACE PRESENTS SIMPLE WAY OF MANIPULATION OF DATA
- . VIEW/ DELETE/ CHANGE/ CUSTOMER HISTORY/ NEW / CUSTOMER LIST/ PRINT
- . SEARCH
 - . CUSTOMERS/ ORDERS/ BOOKS/ EDITORS
- . FUNCTION BUTTONS



CONCLUSIONS AND FUTURE WORK

Instant or almost instant access to the data required. Also, the ease of use (with a strong effort on the number of clicks needed to perform a certain task and the construction of a class exclusively dedicated to error detection), and the programming using the Object Oriented paradigm enables future upgrades more straightforward.

As future work, we are trying to get a PDA with GSM and, together with the existing PDA make tests to the system from both PDA's (although some tests have been made using the emulator and a PDA). In order to further enlarge the pervasive component of the application, a web client will also be developed and the local client will be redesigned to take advantage of a more familiar user interface.

In terms of a better approach to the ubiquity [18] of the system the use of automatic selection of data based on local information, for example with GPS system, automatically selecting the seller's and buyer's profile is also a future objective.

SOME REFERENCES

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