

Project Note

Development of a Payment Terminal for Bank Notes

The new payment terminal simplifies encashing, verifying and counting of large numbers of bank notes. Mechanical and data security measures are taken to assure maximum protection against fraud and theft.


Task

Collecting, checking and counting large numbers of bank notes, as has to be done at shopping centres, for example, is a difficult and arduous task. Tough security standards have to be met during these procedures. It can take several days from the handover of bank notes to their being credited to the retailer's account. The task was therefore to develop a system to handle this task in a faster, more efficient way. The customer already had a basic module (Numeron) for separating the notes and checking them. After being checked and counted, the notes were stacked in an interim cash receptacle and then placed in cashboxes following the depositor's release. Extensive mechanical and data security measures were taken to assure maximum protection against fraud and theft.

Implementation

The use cases and the requirements were determined in an idea and concept phase. Various models were designed and sketched. Together with a designer, ergonomic and technical design requirements were verified with the help of a mock-up and other tools. One model version was first built as a functional model and later as a pilot model in the corresponding phase. A fully functional pilot model with design encasement was presented at the CeBIT. In the next phase, a further pilot model was created that met the increased security requirements.



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Technical Data

Input capacity: up to 400 bank notes per operation - Speed: 20 bank notes per sec - Transaction time: 60 sec per 400 bank notes Mixed denominations and currencies - Safe capacity: 2 x 2300 bank notes - Safe security class: CEN III
Development process: RUP, UML CASE Tool: Rational Rose Implementation: C++

Customer benefits

- Everything from a single company: The hardware and software development was done in an interdisciplinary effort at Zühlke.
- Short development time (22 months) thanks to variable size of project team.
- Access to broad base of engineering expertise outside the customer's core area of competence.
- Close cooperation with the customer and an iterative approach.

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