

**DECOIT**

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# e2001: eBusiness and eWork

Interactive and real-time help-desk  
system in electronic shop  
environment

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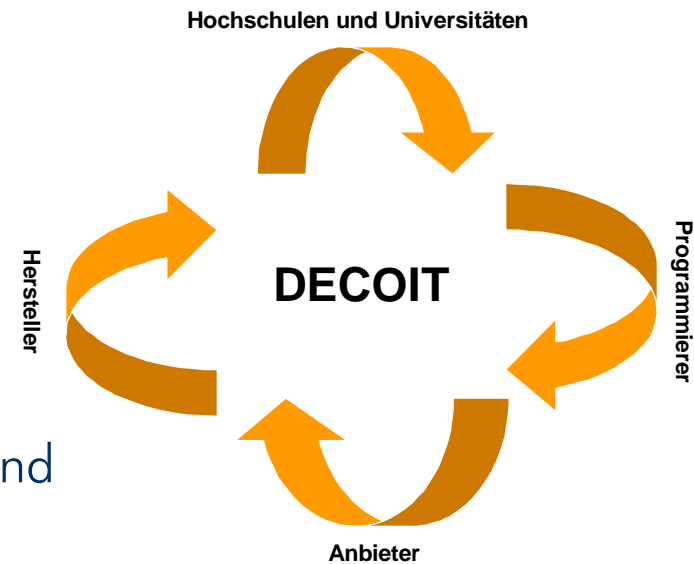
## Letter of Content



- ◆ Portfolio of DECOIT
- ◆ Short introduction of the project INTELLECT
- ◆ Open issues
- ◆ Solutions
- ◆ Conclusion

## Portfolio of DECOIT

- ◆ Consultancy (vendor independent)
  - ◆ Network Concept
  - ◆ Security Concept
  - ◆ Security Check
  - ◆ Strategy Concept
  - ◆ Software Concept
- ◆ Quality Management
- ◆ Vendor and product tests
- ◆ National and international research and development projects
- ◆ Training (technologies and services)
- ◆ Web projects (design and programming)
- ◆ Marketing (Co-operation with publishing houses)
- ◆ Project management



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INTELLECT



## Intelligent Online Configuration of Products by Customers of Electronic Shop Systems



<http://www.ist-intellect.com>

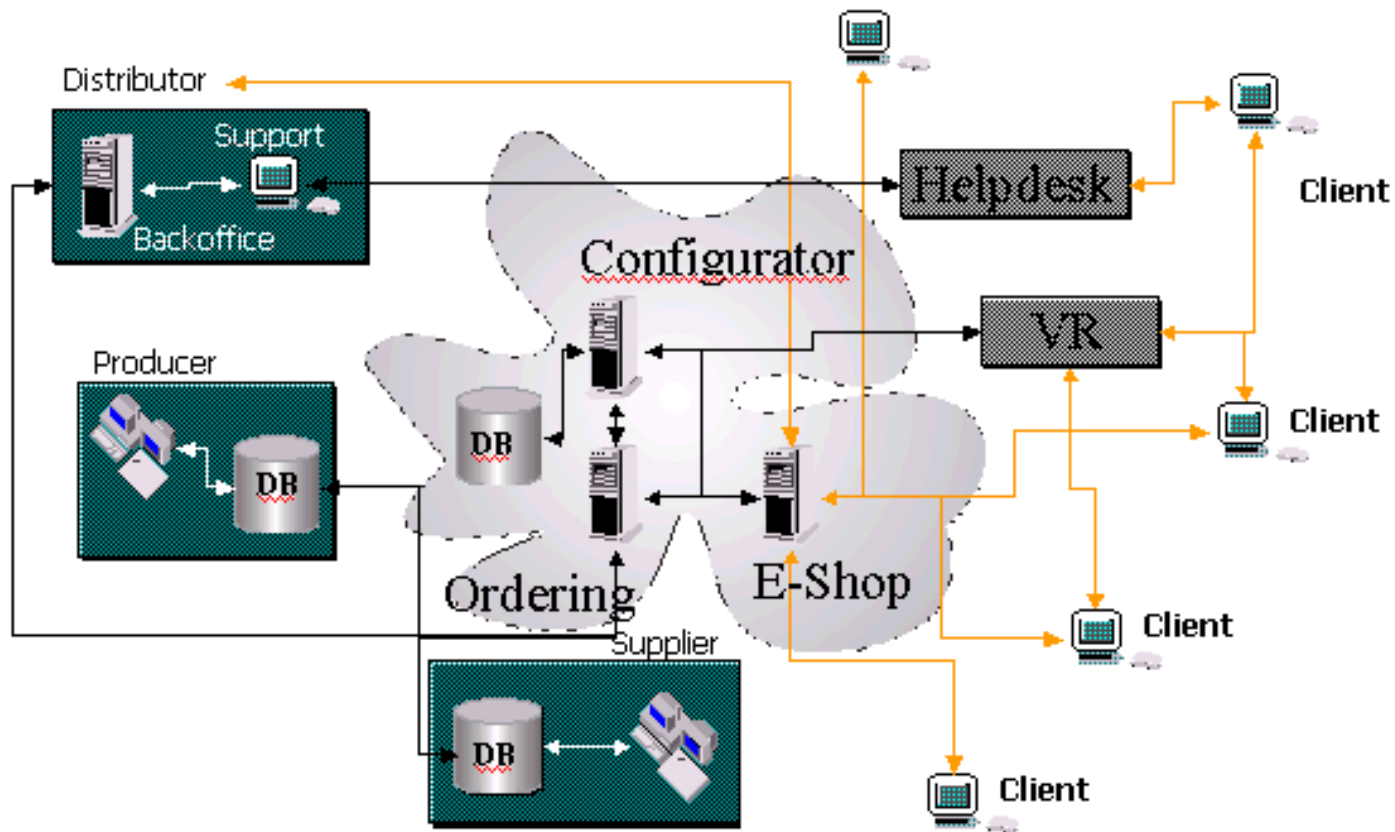


## Original idea

- ◆ An eShop solution, with
  - User-friendliness
  - Realistic product presentation
  - Individual design possibilities for the end-user
  - Intelligent support for the end-user during the design of its new products
  - Feeling for the end-user, as if the end-user buy a product in a real traditional shop
  - Implementation of the eShop system without media breaks



## The modules of INTELLECT



## Open issues



- ◆ The Internet has no possibility to support real-time applications yet (audio and video support is bad and dependent of the time of day)
- ◆ The eShop systems require a high knowledge of the end-user regarding the offered products (e.g. computer systems)
- ◆ The handling of most the eShop systems are circumstantial (not user friendly) and includes slow performance
- ◆ The visualisation of the products has a low quality
- ◆ Less interaction possibilities

## Help-desk: user assistance

- ◆ Frequently Asked Questions (FAQ) → not all questions are covered
- ◆ User help via E-mail → no real-time help, takes too long time for customers
- ◆ User help via telephone → extra costs for the customer, sometimes very expensive
- ◆ User help via chat → too slow, only for experienced people
- ◆ IP-telephony and VC → user friendly but needs bandwidth





## IP-based communication

- ◆ Communication over IP using the third party tool NetMeeting:
  - Audio/Video: direct connection from the customer to the help-desk agent
  - Whiteboard: functionality mechanism for use as a discussion board
  - Chat: interactive discussion board for text communication which does not need audio/video
  - H.323 and T.120 support
- ◆ Bad quality of audio and video without quality-of-service



## Mirroring and multimedia push

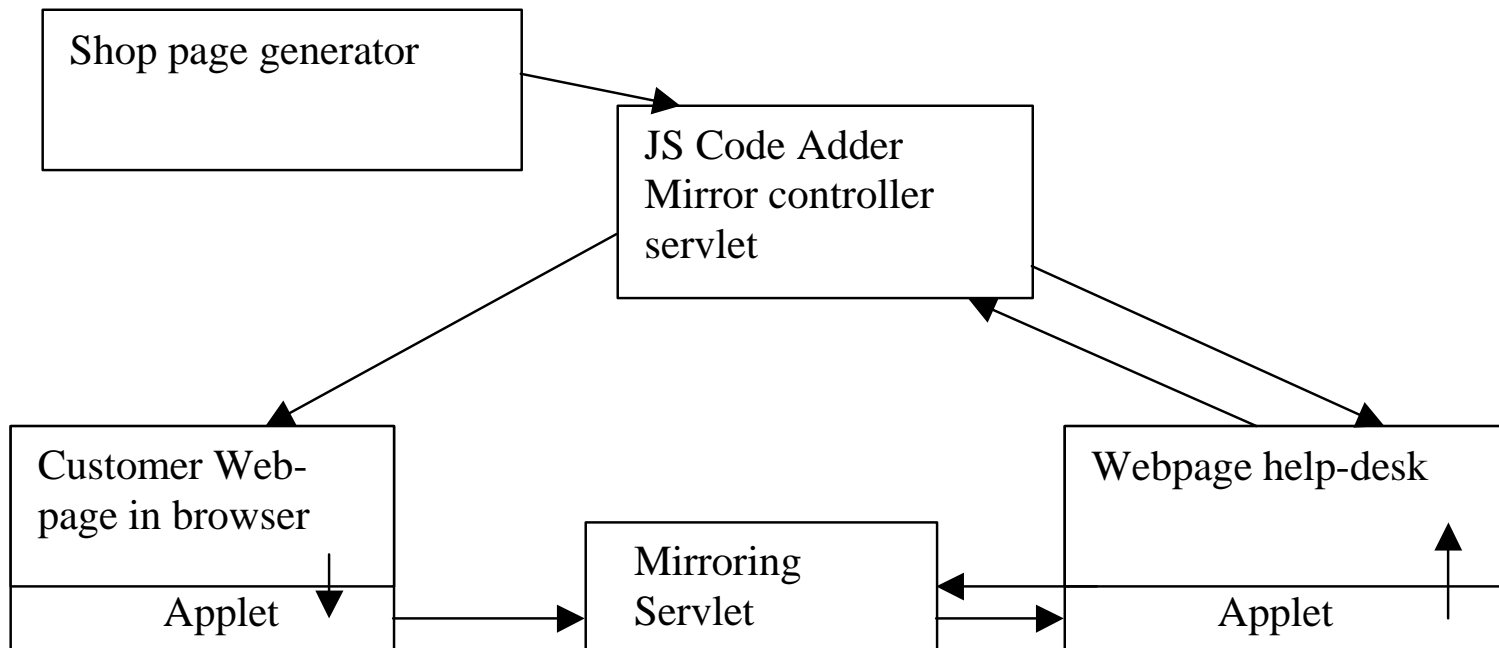
- ◆ Page mirroring: all actions that are done by the customer in the shop are also executed on a mirroring browser window of the help-desk agent
- ◆ The help-desk agent is able to recognise the problems of the customer
- ◆ This mirroring process can change directions, so that the help-desk agent can force the customer's browser window to execute all the actions the help-desk agent executes in his browser
- ◆ The help-desk is able to take over control, to show the customer how to perform the actions he liked to



## Mirroring (1)

- ◆ Any new event (e.g. clicking on a link) is caught by special Event-Handlers written in JavaScript and is decoded
- ◆ These handlers parse the supplied information and activate a method in a hidden applet
- ◆ This applet encodes the event information and sends it together with session information (to identify the customer) to a Java servlet and store it in a queue
- ◆ On the help-desk agent side the hidden applet is working in the so called slave mode where it is polling the Java servlet
- ◆ The help-desk connects the Java servlet continuously (because of the HTTP limitations of stateless) and asks for incoming events
- ◆ This instruction is executed with the Netscape JSObject, which is also available in IE

## Mirroring (2)

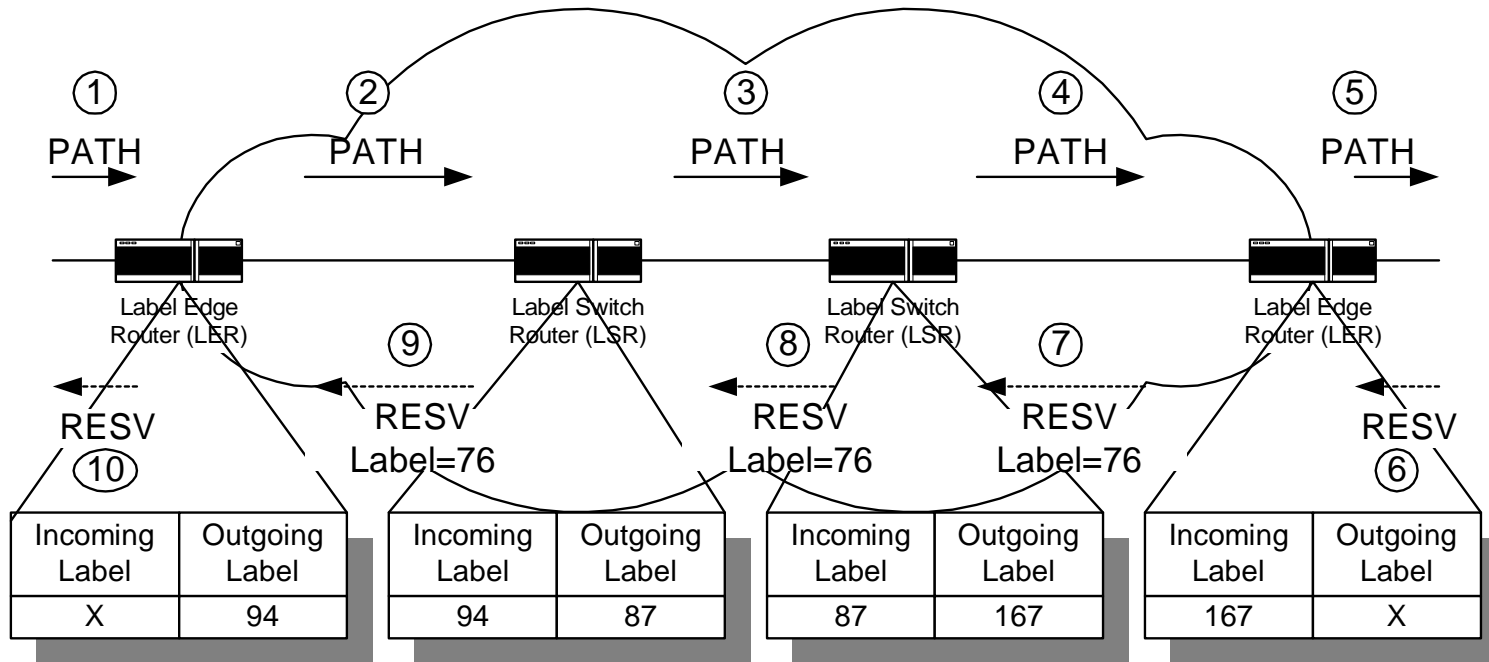


## Integration of CSCW application



The screenshot shows a web browser window displaying a website for 'Intellect'. The website has a navigation menu on the left with links for Home, AboutUs, Products, slow pc, medium pc, fast pc, scooter, and ShoppingCart. The main content area is titled 'Scooters' and features a yellow scooter image and descriptive text: 'The fastest and smoothest scooter of them all. It is a unique shaped frame with 26 tires offers suspension without suspension. You have got to try it!'. A 'login' form is visible at the top with fields for 'user' and 'pass', and a 'login' button. A 'SessionId: x0z1764zq1' is displayed. A 'I need HELP!' button is also present. Overlaid on the website is a 'Virtual Reality' window showing a 3D model of the scooter with various view points (Front, Back, Right, Left, Over, Under, See all) and interaction options (Interact, Rotate, Translate). A zoom level of 1.5 is shown. Another window titled 'WebMeeting - 2 Connected' is overlaid on the right, showing a video chat interface with two participants and a list of participants including 'M. De', 'Michael Beckmann', and 'Alexander (PFC)'. Red lines connect various controls in the video chat window to labels on the right side of the image, such as 'Place Call', 'End Call', 'Red Camera in a Device', 'Messages of meeting host', 'Start/Stop Video', 'Picture in Picture', 'Adjust Audio Volume', 'List of participants', 'Chat', 'UnMute', 'Transfer File', and 'Go to List'.

# Quality-of-service integration





## Conclusion

- ◆ Furthermore quality-of-service is an open issue of the Internet society: several approaches are available, but not implemented yet
- ◆ Real-time applications are not supporting QoS mechanisms yet
- ◆ Efficient customer/user support is an essential need of today's eShop systems
- ◆ Security and IP address problems will arise if we will use more video and audio applications, because of the firewall mechanisms (security policy) and the not available IP address space

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...thank you for  
your attention

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