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TITLE
ELECTRONIC ROUTER FOR E-MAIL

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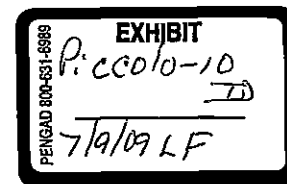
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EZ Reader: Embedded AI for Automatic Electronic Mail Interpretation and Routing

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Abstract

EZ Reader is an intelligent electronic mail (email) reader that employs a unique combination of rule-based parsing and case-based reasoning to automatically and with a high level of accuracy classify and respond to large volumes of incoming email. EZ Reader reduces the time and human resources required to handle incoming email by selecting responses and adding attachments and advice to each incoming message based on how previous similar messages were handled. The application, developed for Chase Manhattan Bank using Brightware, Inc.'s ART*Enterprise® tool, answers emails automatically and decreases processing time for those requiring manual review. Phase 1 of EZ Reader was deployed in the first quarter of 1996, and handles up to 80% of incoming mail automatically. depending on message content. Later phases will enable automatic processing of a wider variety of messages. By dramatically reducing the effort associated with manual processing, EZ Reader will pay its own development costs within six months and will result in substantial. recurring dollar savings each year. This paper describes EZ Reader in detail. including its AI-based design, testing. implementation and development history.

Problem Description

Like other businesses that sought to expand access to their products and services through the Internet and other online channels[1], ChaseDirect, a unit of Chase Manhattan Bank N.A., Regional Bank. began to provide electronic banking services using phone and personal computer technology in 1995. Marketing campaigns advertised that email could be used to request information and services, opening a new electronic channel of communication with customers and prospects.

The success of its marketing campaigns created a challenge for ChaseDirect from the beginning to quickly and cost-effectively process email from multiple sources. including the Internet. Microsoft Money email. and another internal DOS-based money manager program with email capability. In addition to ChaseDirect's commitment to provide excellent, timely service to its customers. electronic commerce laws required the bank to respond to certain types of electronic correspondence within specific time frames. Although more than 80% of incoming messages were simple requests for product information. the staff often got backlogged and worked after hours and on weekends to keep up with the required analysis and responses. Faced with the huge projected increase in Internet email volume due to the planned introduction of a new World Wide Web server, as illustrated in Figure 1. below, ChaseDirect aggressively sought cost-effective. high-quality ways to process emails. This urgent business problem attracted attention from Chase's Regional Bank Knowledge Base (KB) technology team. The team's general charge was to apply artificial intelligence (AI) technology in key areas of the Regional Bank where appropriate to optimize operational decisions.

To address ChaseDirect's business problem. the Knowledge Base team created EZ Reader. an embedded AI application operating as an invisible layer between the Lotus Notes® email system and ChaseDirect. The application continuously retrieves incoming Internet email from Chase prospects and customers through an interface to Lotus Notes, and also acts as a filtering and routing

Banks face significant threats to the retail banking franchise from advances in online banking (Taylor. Mehta & Wurster 1996)