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## **ANSA Phase III**

# **Quartz: Making CORBA Objects Easy to Reach**

**Zhixue Wu & Toby Speight**

### **Abstract**

The business problem addressed is the delivery of services to end users

The technical problem created by that business problem is how to deliver portable, consistent, self-installing access software to non-technical individuals.

The solution being offered is delivery of access software using email and the Web.

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**Draft**

1st October 1996

External Paper

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**Distribution:**

**Supersedes:**

**Superseded by:**



# Quartz

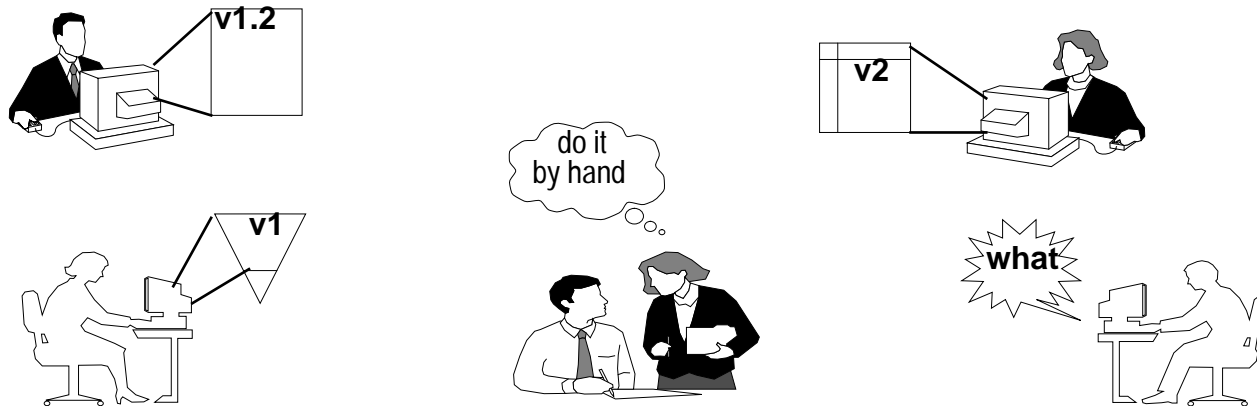
## Making CORBA Objects Easy to Reach

**Zhixue Wu and Toby Speight**  
**May 1996**



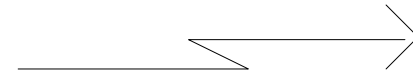
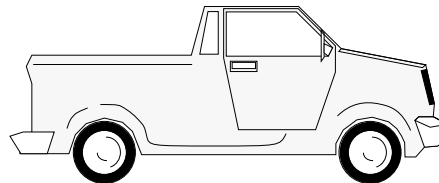
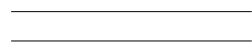
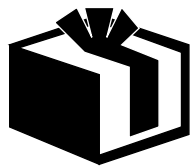
# IT Application Situation

- Users may be located far away from the main site
- They are equipped with variety of machines
- They may have only temporary or one-off use of a service
- They require complete consistency
- They require punctual connection



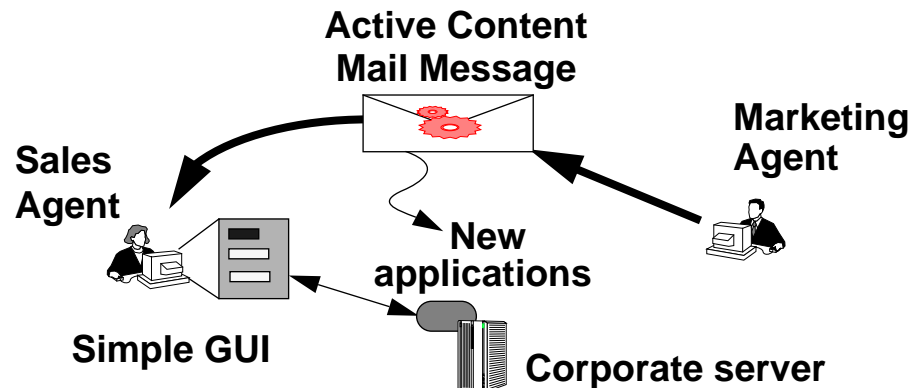
# Requirement

- **Problem**
  - Software installation is costly and difficult
  - Each user-interface has a learning curve
  - Software has very low portability
- **Requirement**
  - A method to wrap a service with a familiar interface
  - A simple method to distribute a service



# Core Idea of Quartz

- **Make CORBA services**
  - available widely and easily
  - accessible from desktops and consumer equipment
  - simple to use
- **Combining email, WWW and object technology will**
  - allow CORBA objects to be accessed from Web
  - use email and WWW for service distribution
  - use Web browser as user interface



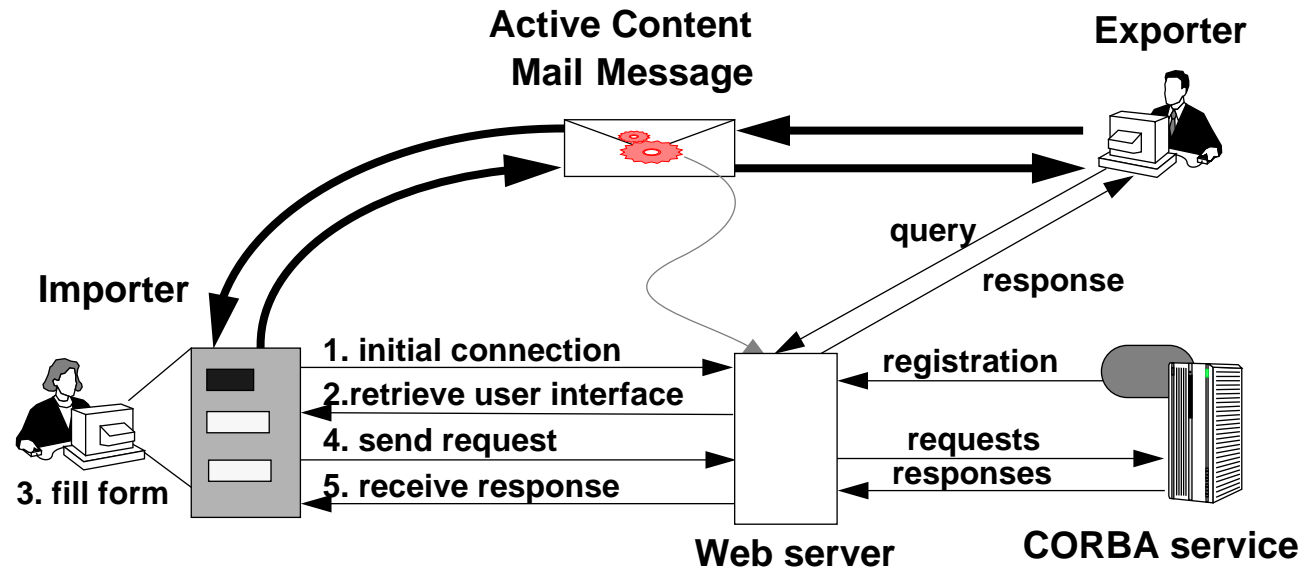
# Advantages and Benefits

- **Accessible from different sites and different platforms**
  - workstations, PCs, desktops
- **Easy connection and installation**
  - email, Web infrastructure, Java interpreter
- **Simple but powerful interface**
  - Web browser
- **Easy access to related information**
  - on-line help, related events
- **Rapid implementation**
  - reusable objects, Java, HTML



# Scenario

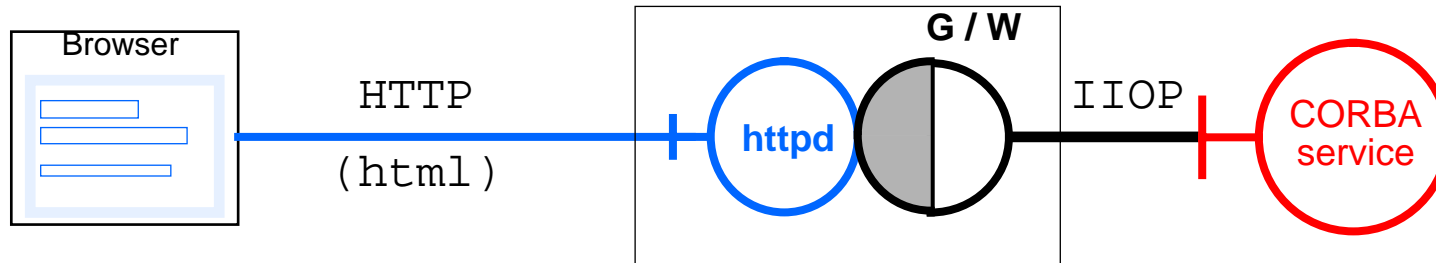
- Service development
- Client interface development
- Registration
- Use



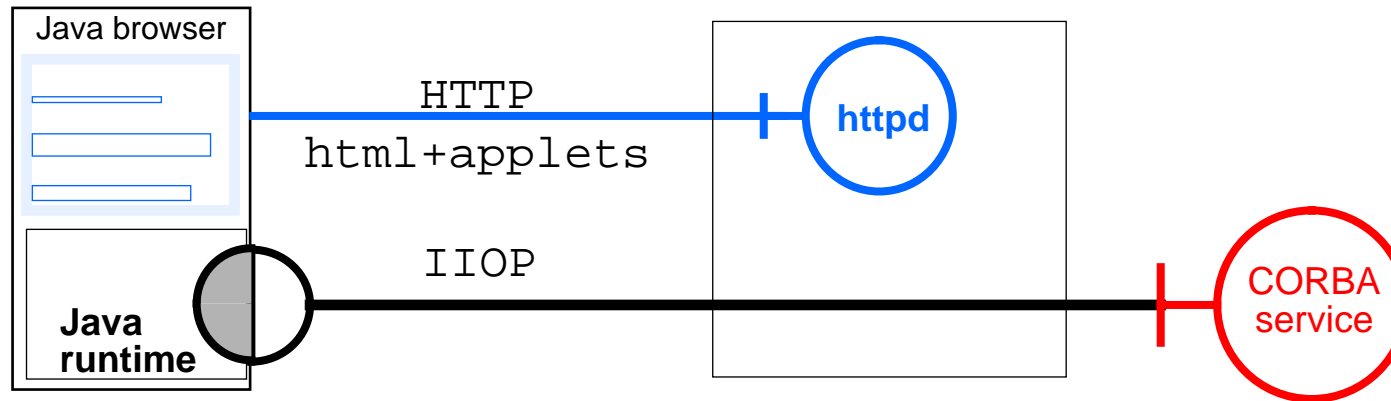


# Interoperability between WWW and CORBA

- ANSAWeb

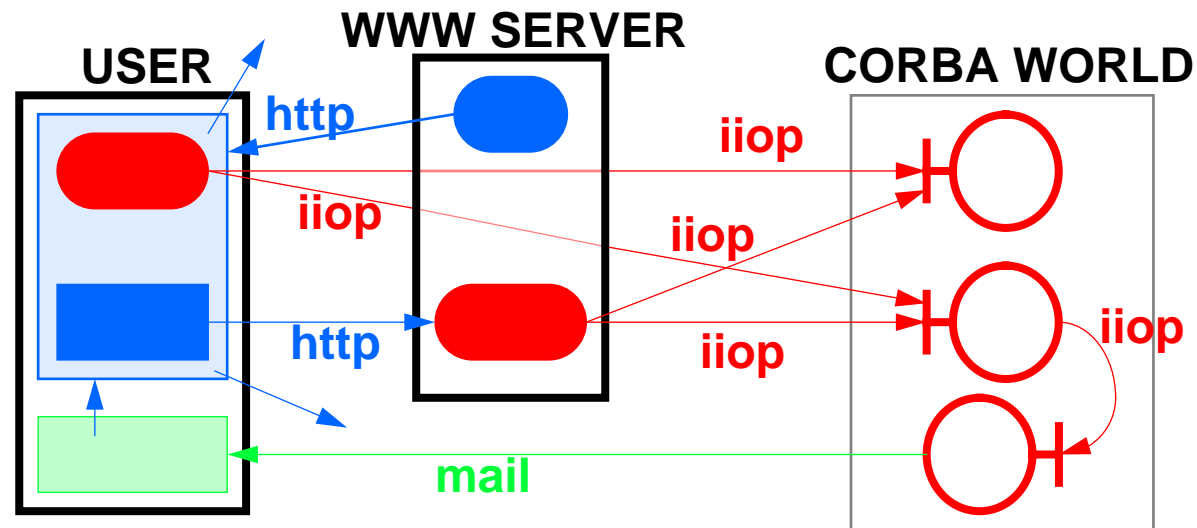


- Jade



# Web Interface for CORBA Objects

- Use CORBA objects as backbone
- Implement CORBA interfaces as Java applet interfaces
- Use Java as Web programming language
- Use email as a means of notification
- Use Web as execution environment



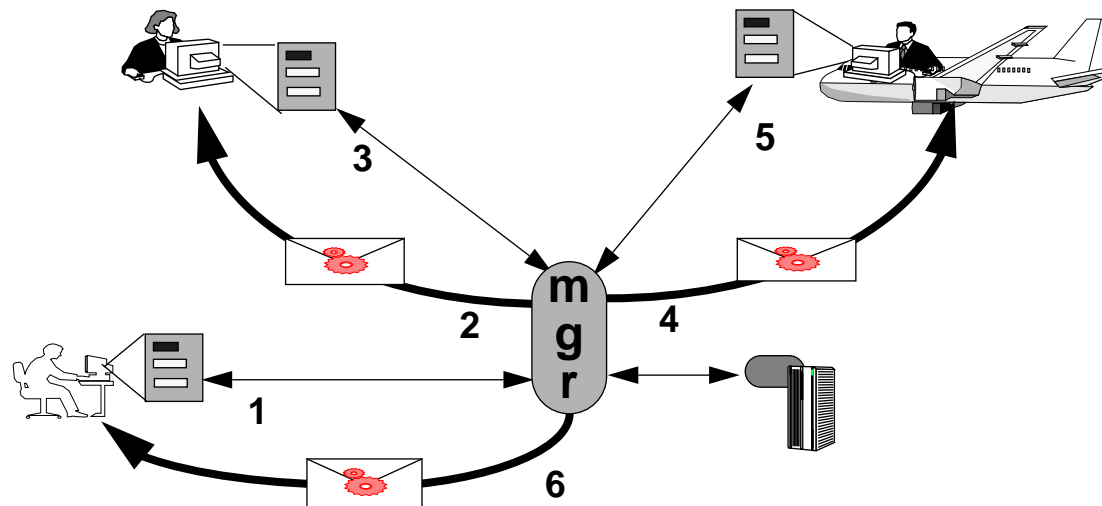
# Aim of the Project

- **Demonstration via working examples**
  - show how to make use of the idea in practical applications
  - demonstrate its feasibility, advantages and benefits
- **Provide reusable components**
  - implement domain-specific and generic components
  - make generic components reusable
  - implement new applications by customising
- **Provide support tools**
  - make it easier to write Web interfaces



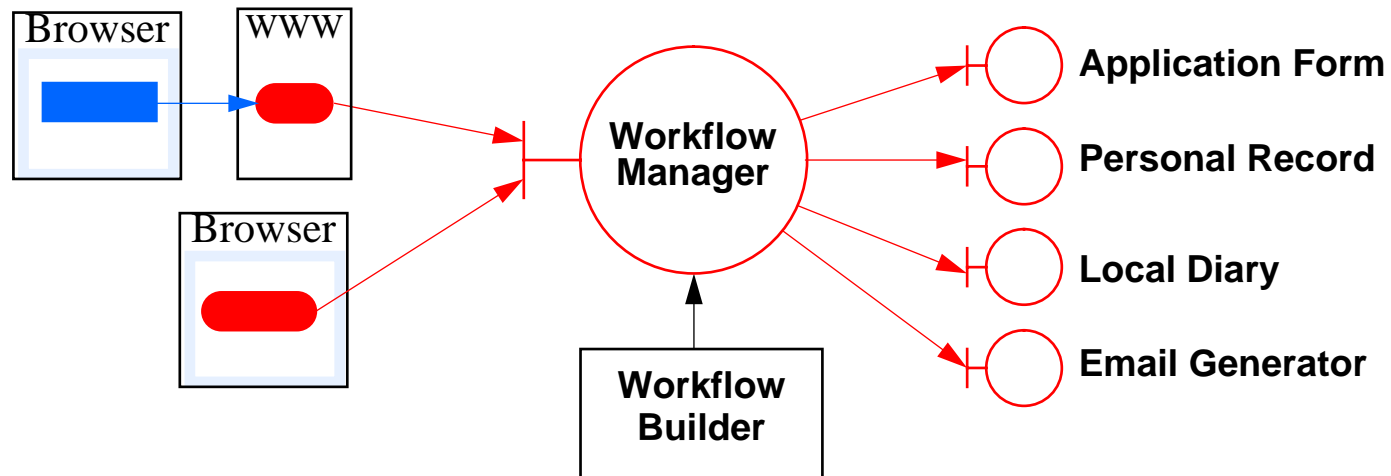
# Example Application: Holiday Request

- **Employees**
  - submit request (workstations)
- **Secretary**
  - check available holiday time (PC)
- **Manager**
  - make decision (notebook)



# The Architecture

- **Workflow manager**
  - object invocation based on an event-action table
- **Workflow builder**
  - define an event-action table for an application
- **Application objects**
- **Web clients**



# Advantages over Workflow Software

- **Distribution transparency**
- **Platform transparency**
- **Simple user interface**
- **Powerful on-line help**
- **Easy access to related information**
- **Low cost connection and installation**



# Project Deliverable

- **Demonstrations**
  - leave request system
  - project proposal and review management
- **Object Library**
  - re-usable components
- **Builder Package**
  - tools to make application implementation easier
- **Architectural Report**
  - architectural features and design decisions
- **Project Report**
  - project principles and design decisions

