

MICHIGAN STATE UNIVERSITY

6. Team Project Architectures

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CSE 498, Collaborative Design



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Architecture Components

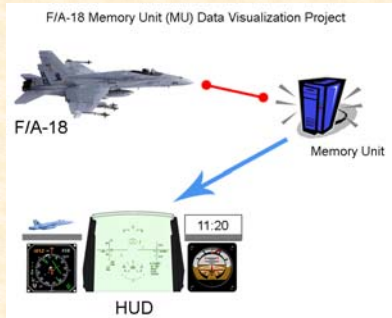
- Platforms
 - Windows XP Professional
 - Visual Studio.NET 2003
- Software / Technologies
 - C++
 - OpenGL
 - Microsoft Access

Team 1: Boeing

0-2

Architecture Illustrated

F/A-18 Memory Unit (MU) Data Visualization Project



Team 1: Boeing

0-3

Architecture Risks

- Will it collaborate the interface with other applications?
- Does it run under minimal system requirements?

Team 1: Boeing

0-4

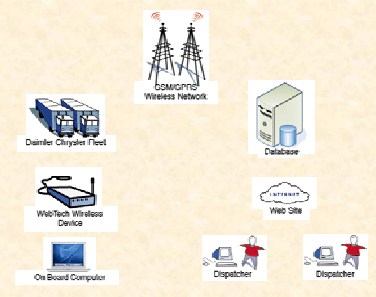
Architecture Components

- Platforms
 - Windows Server 2003
 - OS: XP
 - MySQL Sequel Server
 - WebTech wireless device (WT4000)
- Software / Technologies
 - C#
 - ASP.NET
 - GSM/GPRS wireless connection through T-Mobile

Team 2: DaimlerChrysler 1

0-5

Architecture Illustrated



Team 2: DaimlerChrysler 1

0-6

S Architecture Risks

Team 2: DaimlerChrysler 1

- Downtime/Coverage/Signal of T-Mobile (this problem already a risk with current satellite use)
- Specifications of WebTech device work correctly as stated by manufacturer (i.e. durability, hardware access, internet capabilities)
- Hardware durability
- Quick data transfer essential

0-7

S Architecture Components

Team 3: DCX: Sales & Marketing

- Platforms
 - Development Machine: Windows XP
 - Application Server: Apache Tomcat 5.0.28
 - Web Server: Microsoft IIS
- Software / Technologies
 - Java Application Development:
 - RIM JDE: development of the client BB application which runs on the BB device. (Proprietary BB software)
 - The JDE comes with it's own API which extends the base J2ME API
 - Eclipse: development of the Server application
 - BlackBerry Wireless Handheld Device (Model #7280)

0-8

S Architecture Illustrated

Team 3: DCX: Sales & Marketing

0-9

S Architecture Risks

Team 3: DCX: Sales & Marketing

- Getting sales data from DCX in a form in which we can use to test our application
- No previous experience with this technology
 - Connection between client application and the server application (HttpConnection Protocol)
 - Java (micro) development - formatting data on the blackberry device

0-10

S Architecture Components

Team 4: Image Space

- Platforms
 - Windows Server 2003
 - Windows XP
- Software / Technologies
 - C++
 - Visual Studio 6
 - DirectX
 - Image Space Inc. software

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S Architecture Illustrated

Team 4: Image Space

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Architecture Risks

- Must have same capabilities as current system
- Easily customized
- Well documented
- Scalable design

Team 4: Image Space

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Architecture Components

- Platforms
 - Windows Server 2003
 - Red Hat 9 Workstation
- Software / Technologies
 - XML
 - Cocoon
 - Exist
 - XSL
 - Java
 - Xpath, Xquery
 - XHTML, CSS...

Team 5: Matrix

0-14

Architecture Illustrated

Pipeline diagram for Architecture of Matrix Project

The diagram illustrates a pipeline with three main stages: eXist, Cocoon, and Browser.

- eXist** (blue box) contains 'XML Data' and 'XQuery'. Below it is 'Customer'.
- Cocoon** (yellow box) contains 'Content Generation' and 'Transformation to XHTML'. Below it is 'Logic'.
- Browser** (green box) contains 'Presentation of XHTML' and 'CSS'. Below it is 'Presentation'.

 Arrows show the flow: Customer to eXist, eXist to Cocoon, Cocoon to Browser, and Browser to Presentation.

Team 5: Matrix

Image created by Brandon Furtwangler at MATRIX

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Architecture Risks

- Poorly designed XML database/standard would lead to BADNESS!
- Lack of understanding of the transition between stages will inevitably lead to kinks in the process.
- Lack of motivation would lead to WORSENESS.

Team 5: Matrix

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Architecture Components

- Platforms
 - Windows Server 2003
 - Windows XP Tablet Edition (Tablet PCs)
 - SQL Server 2000
 - Possibly Notebooks running Win XP as well
- Software / Technologies
 - .NET, C#
 - 802.11x
 - TCP/IP

Team 6: MSU Basketball

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Architecture Illustrated

The diagram shows two network options:

- Option 1:** Three Tablet PCs (Tablet A, B, C) are connected via wireless signals to a single Laptop USB Server 1.
- Option 2:** Three Tablet PCs (Tablet A, B, C) are connected via wireless signals to two separate Laptop USB Servers (Laptop USB Server 1 and Laptop USB Server 2), which are connected to each other via a 'Wired Ethernet' link.

Team 6: MSU Basketball

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S Architecture Risks

Team 6: MSU Basketball

- Database server crashes/fails
 - Need to switch to the backup server automatically
 - Need to recover gracefully if/when brought back online
 - Synchronize the databases with each other
- One or more Tablets crashes/fails
 - Other users should be able to take over for the failed Tablet to continue taking stats
 - Need to recover gracefully if/when Tablet is brought back online
 - Play "catch-up" with the data

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S Architecture Components

Team 7 : Motorola

- Platforms
 - Linux Server
 - Windows XP Development
- Software / Technologies
 - Java/Java RMI/Ant Compiler
 - XML
 - Berkeley Database
 - Eclipse Integrated Development Environment
 - VISCA protocol

0-20

S Architecture Illustrated

Team 7 : Motorola

```

    graph TD
      AdminClient((Admin Client)) --- CentralDatabase((Central Database))
      VideoServer((Video Server)) --- CentralDatabase
      VideoControlClient((Video Control Client)) --- CentralDatabase
      VideoServer --- VideoControlClient
    
```

0-21

S Architecture Risks

Team 7 : Motorola

- Canon Camera does not work with the extended VISCA protocol
- Video Server could not store live video files into the database or load live video files from database
- Both Cameras do not work

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