Session 28

Techie Terminology and Benefits for Financial Aid Administrators

Tim Bornholtz

Holly Hyland

Purpose of the Session

- Translate techno-babble into English
- If you have questions please interrupt
- If we diverge from the presentation with your questions, that's OK!

Architecture

- Application Architecture
- Create applications
- Object-oriented models
- Use cases
- Sequence diagrams

- Data Architecture
- Create databases
- Logical data models
- Physical data models
- Entity relationship diagram

Architects are fancy titles for experienced personnel

- Usually requires more than 5 years of experience creating real systems

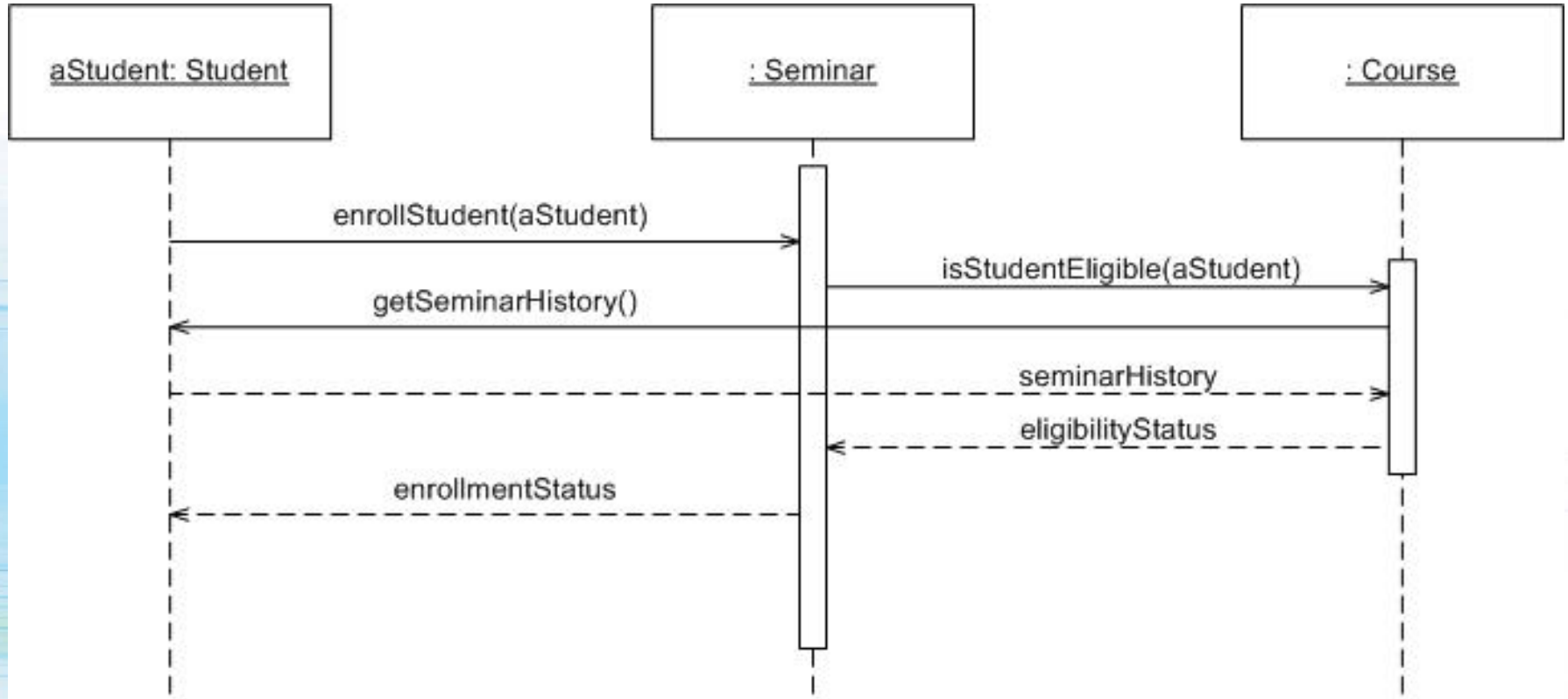
Application Architecture

- UML – Universal Modeling Language
  - Collection of processes and diagrams to design applications
- Use Case
  - Document written in business language that describes one specific use or flow in a system

Application Architecture (continued)

- Sequence Diagram
  - Picture that shows the same flow but with the technical pieces

Sequence Diagram



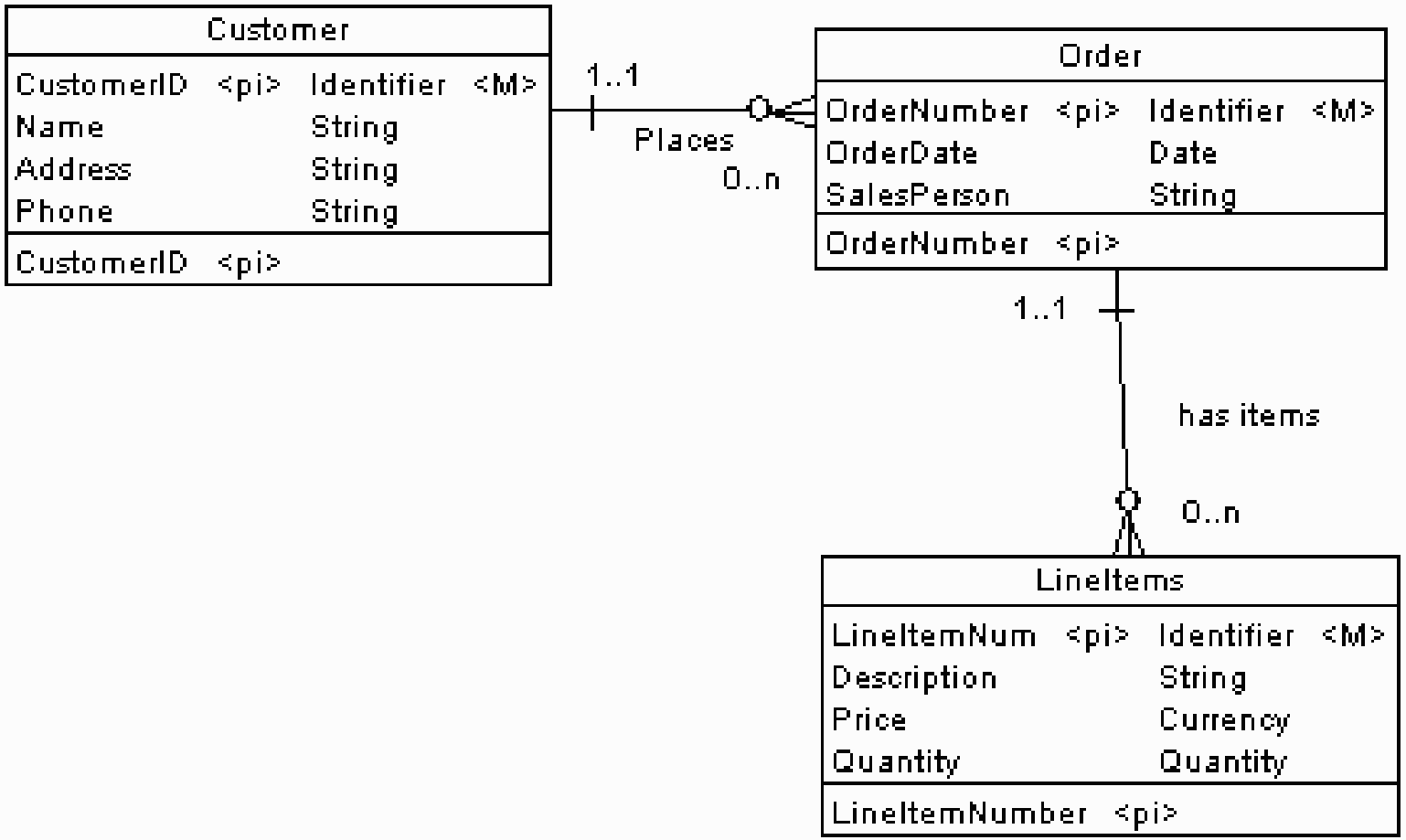
Data Architecture

- Logical Data Model
  - Creating databases that reflect the business need
- Physical Data Model
  - Transforming the logical data model so it is efficient for a computer to use

Data Architecture (continued)

- Entity Relationship Diagram
  - Specific convention to represent the models
  - Way to draw pictures that other data architects can understand

Entity Relationship Diagram



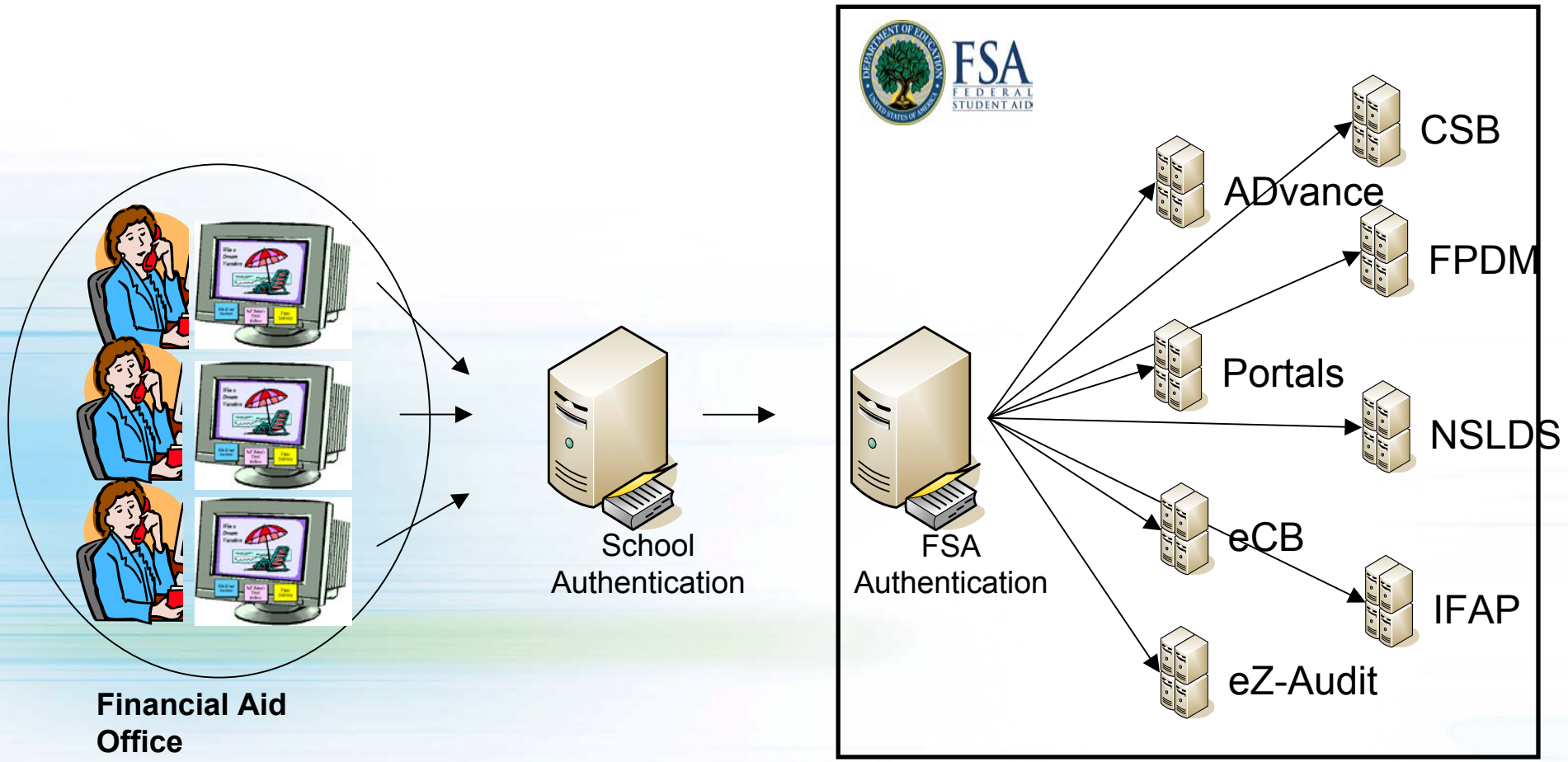
eAuthentication

- Also called
  - Federated Identity
  - Transitive Trust
- What is it?
  - Distributed authentication system that allows individuals to use the same credentials (user name and password) at multiple places

eAuthentication (continued)

- Why is it necessary?
  - Because we all have too many passwords to remember!

eAuthentication (Future)



XML – eXtensible Markup Language

- Uses tags to surround data elements
  - <FirstName>Tim</FirstName>
- Tags are heirarchical
  - <Name>
    <FirstName>Tim</FirstName>
    </Name>

XML – eXtensible Markup Language (continued)

- XML files are just plain text files
  - No special tool needed to read them
  - Understanding them may be a different issue!

Metadata Repository
XML Repository

- Metadata is data about data
  - Data type e.g. characters or date
  - Properties e.g. length, maximum value, or allowable values
  - Definitions (in plain text) about data elements

Metadata Repository
XML Repository (continued)

- Metadata repository is a place to hold all of this information
- XML Repository is a special case for storing metadata for XML

XML Schemas

- XML Schemas define the structure of an XML document. A schema defines what is allowable and what is not allowable.

XML Schemas

- Why this matters:
  - If a document contains wrong data then it will usually be rejected by the recipient.
  - The whole document will be rejected, not just the records with problems. All or nothing.

XML Namespaces

- A “person” who receives student aid
- A “person” on the FBI’s most wanted list
  - May share some common tags (name, address)
  - Many different tags (award amount vs. crime)

XML Namespaces (continued)

- Namespace is a way to differentiate a student aid “person” from the most wanted “person”

Semantic Web

- Semantic Web
  - Create a universal medium for information exchange by giving meaning (semantics) to the content of documents on the web
  - Create meaning that a computer can understand

Semantic Web (continued)

- Taxonomy
  - Classification of things into groups
  - Purpose is to differentiate "spine" in your back from "spine" of a book

Web Services

- Usually a remote business process that uses XML and SOAP
  - Many different definitions of Web Services
- SOAP – Simple Object Access Protocol
  - Generic way for two different computers to talk

Web Services (continued)

- WSDL – Web Services Description Language
  - Contains every piece of technical data necessary to use a service
- UDDI – Universal Description, Discovery and Integration
  - Phone book of services
    - White pages for lookup by name
    - Yellow pages for lookup by category
    - Green pages for lookup by technical info

Service Oriented Architecture

- Service Oriented Architecture (SOA) is an architectural style. Applications built using an SOA style deliver functionality as services that can be used or reused when building applications or integrating within the enterprise or trading partners.

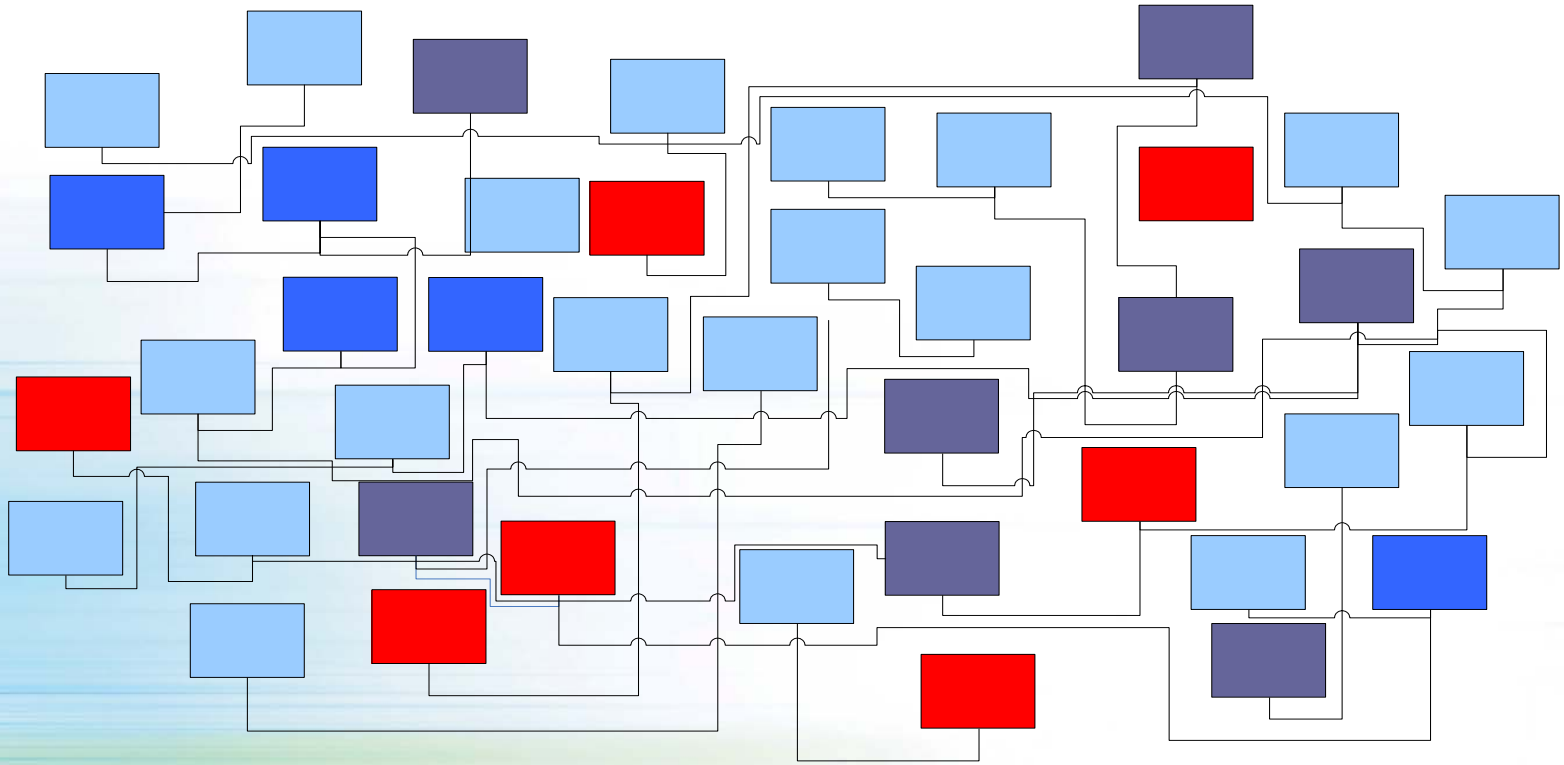
SOA

- Uses open standards to integrate software assets as services
- Standardizes interactions of services
- Services become building blocks that form business flows
- Services can be reused by other applications

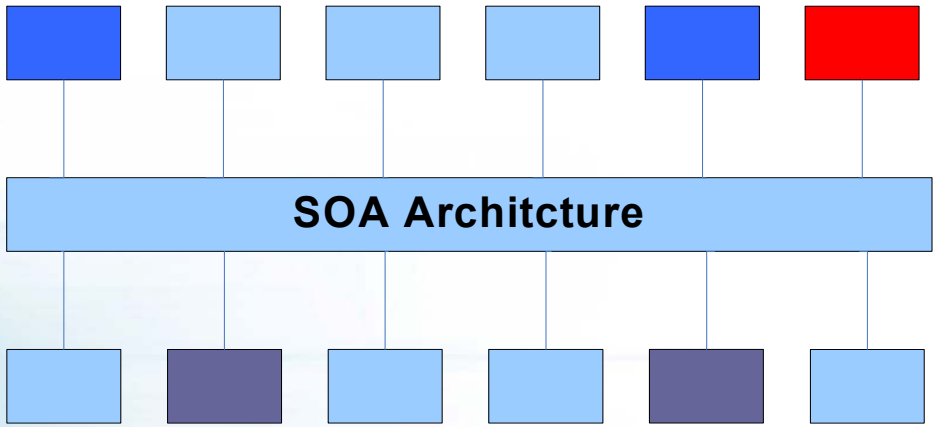
What is a service?

- A service is a reusable component that can be used as a building block to form larger more complex business application functionality
- A service may be as simple as “get me some person data” or as complex as “process a disbursement”

Legacy Integration



SOA Integration



Enterprise Service Bus (ESB)

- An enterprise service bus is an infrastructure used for building compound applications
- The enterprise service bus is the glue that holds the compound application together

Key Characteristics of an ESB

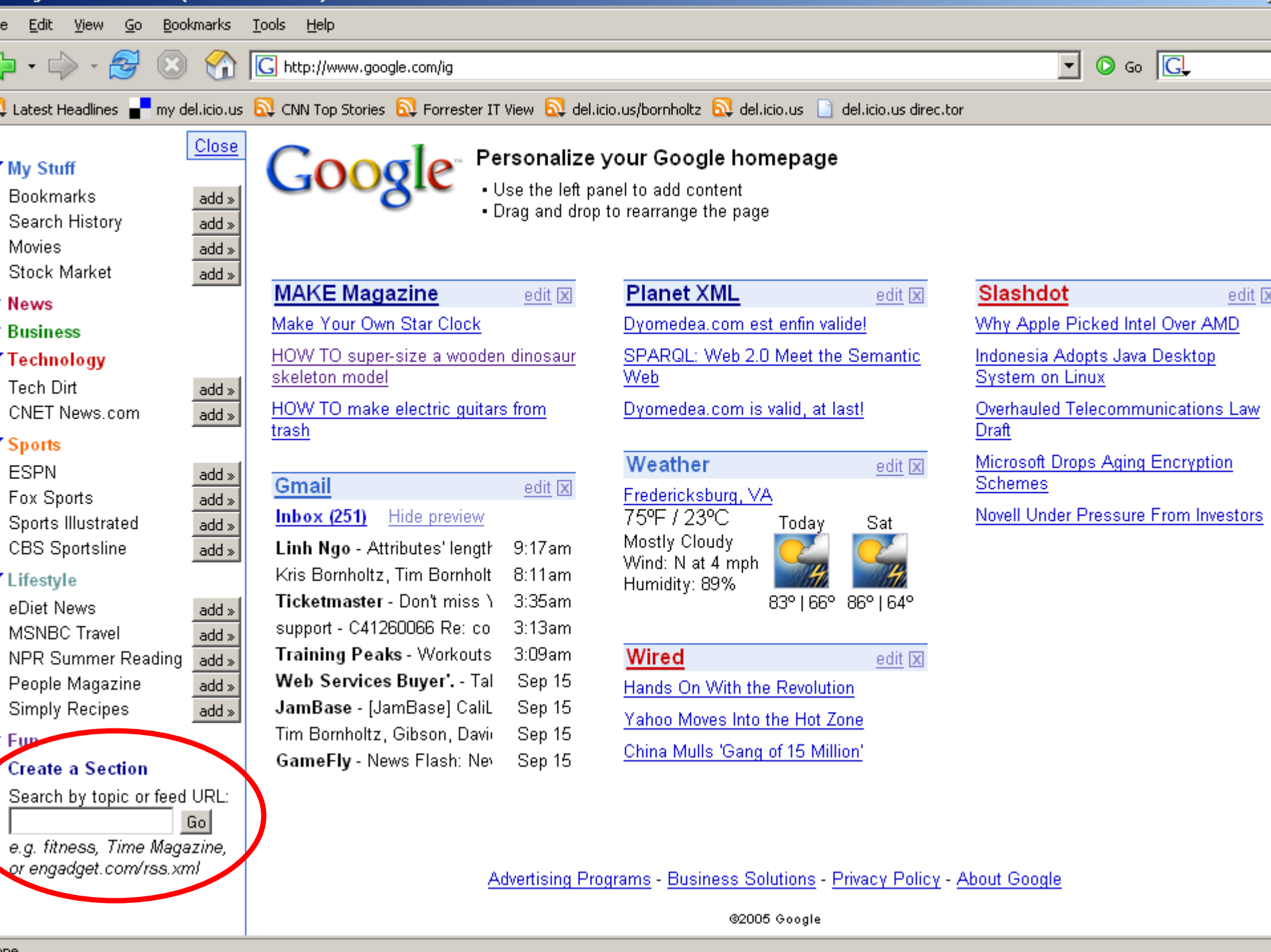
- Streamlines development
- Supports multiple binding strategies
- Performs data transformation
- Intelligent routing
- Real time monitoring
- Exception/error handling
- Service Security

Blogging

- Blog – Short for Web Log
  - Online journal
  - Anyone can create a blog on his/her own site or on large free sites like blogger.com
  - Anyone can become an instant journalist
  - Potentially replacing mainstream media as a source of information

RSS – Really Simple Syndicate

- XML format for blogs and news sites to list recent content
- Read with an RSS reader
  - As a separate program or within a browser
  - Can get updates on a schedule
- Allow someone to quickly scan many sites for updated news or content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Search by topic or feed URL:
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Personalize your Google homepage
• Use the left panel to add content
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Make Your Own Star Clock
HOW TO super-size a wooden dinosaur skeleton model
HOW TO make electric guitars from trash
Gmail edit
Inbox (251) Hide preview
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Kris Bornholtz, Tim Bornholt 8:11am
Ticketmaster - Don't miss \ 3:35am
support - C41260066 Re: co 3:13am
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SPARQL: Web 2.0 Meet the Semantic Web
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Fredericksburg, VA
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Mostly Cloudy
Wind: N at 4 mph
Humidity: 89%
Today
83° | 66°
Sat
86° | 64°
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Hands On With the Revolution
Yahoo Moves Into the Hot Zone
China Mulls 'Gang of 15 Million'
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Why Apple Picked Intel Over AMD
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Questions ?

We appreciate your feedback and comments. We can be reached at:

Tim Bornholtz

•Phone: (202) 377-3465

• Email: tim.bornholtz@ed.gov

Holly Hyland

•Phone: (202) 377-3710

• Email: holly.hyland@ed.gov