FDS
The Faculty Database System
A Proven Enterprise Solution

Department of Mathematics
Arts & Sciences

http://fds.duke.edu/

May 1st, 2009
Main Points

- FDS has been used for ~10 years; widely adopted; constantly improving
- FDS is powerful, flexible, extendable, and it's what faculty want or need
- FDS is a proven, cost-effective application platform
- FDS is mission critical; we'll provide the services as long as they are needed
A faculty member's view

“Frankly, I always look longingly back at the database system that Duke has. That system is excellent in every way that I know. It even turns making annual faculty reports into a trivial exercise, since one can enter all of the relevant events easily through a web interface that is intuitive, flexible, and simple.”

-- Robert Bryant, Duke J.M. Kreps Professor & MSRI Director at Berkeley, 2009
History & Scope

- Developed in math in 98/99, for internal use
- Adopted by A&S in 2003
- Designed primarily for the faculty's own needs to maintain and showcase achievements
- Principle: serve and empower the faculty
- Currently used by most schools & programs on campus. Data sync from the med school.
- Currently, 170 groups, 9k users for 12k appts, 145k publications, 29k lectures, 6k templates, etc. Real time data to many web sites.
Support

• First, thanks to many people who have helped the project through the years
• Supported part-time/spare-time/weekend by me (system & develop, Andrew Schretter as my backup) & Adrienne Moore (user support)
• Latched on the Math/AMS db servers
• Funding: none
FDS' Goals & Achievements

- Provide basic contact info in useful forms
- Showcase research & teaching
- Facilitate the annual evaluation processes
- Provide standard but flexible web pages, such as CVs and faculty profiles
- Must be easy for faculty to update, & only once
- Data must be easy to reuse, locally & remotely
- Faculty are motivated to update
- Save/archive important institutional data
LAMP Architecture

How FDS works

Database Server
- Data
  - raw & XML
- Templates for every web pages

Web Server
- insert/update
- select
- output
- insert/update

Sandbox

User Interface
- Enter/update data
- Get web pages
- Interact with other databases & servers
- Create/update templates

User Authentication / Firewall

all data saved in the database
Group Layout

http://fds.duke.edu/db/aas/Math/faculty/drm

A user can belong to multiple groups
Main Features

- **Data** is maintained and updated by departments or individuals; faculty control the privacy of their own information
- Faculty research data can be rendered in any format. e.g., feed the touchscreen project
- A standard XML-based system architecture, with built-in automatic archiving capability, guarantees that the data is portable and reusable
A powerful templating engine with site wide and individual template based versionings lets each unit and faculty customize the system to meet their own needs, and publish any selected data to the web in their own way.

version control (g/cls/u), sharable, inheritance, override, global & local, dynamic binding

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Main Features, cont.

- **SQL Builder, Certified Templates, XML connectors** make data mining straightforward.

- Integration with a school's annual faculty evaluations process ensures up-to-date information without increasing faculty workload or administrative overhead.

- FDS interacts easily with other enterprise information systems: LDAP directory, SISS, Grants; PubMed etc, and any other standard based sources, with added values.
Misc.

- handle mostly common needed data, can be easily extended to others (e.g., Blog, APT)
- xml input/output, pdf output for all pages
- distributed workflow for news publishing, expertises from ground up
- used as portal/service provider to other campus wide services
- Secure, scalable and fast
- All connections encrypted, sensitive data encrypted with PGP, remote backup to UCLA
In conclusion

FDS is a powerful CMS which has been serving Duke faculty's needs well; and it has become a critical enterprise level service. We'll continue to do our best to support it for as long as needed.

Thank you.