



WICHITA STATE  
UNIVERSITY

# Capturing Institutional Knowledge in Business APIs

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# Session Etiquette

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- Set your cell phone to stun.
- It is prime nap time so if you fall asleep during the presentation please fall out of your chair as discreetly as possible.
  - Indiscreet chair exiting doesn't go well for anyone.
- If you have a side conversation during the session please speak loud enough so we can all participate.
  - Even if we don't know what you're talking about, we all have an opinion on what you should do.

# Session Roadmap

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**What Is Institutional Knowledge**

**Where Is It Located**

**Two Examples at WSU**

**Capturing Institutional Knowledge**

# What Is Institutional Knowledge

# Institutional Knowledge

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- A collective set of facts, concepts, experiences and know-how held by a group of people. As it transcends the individual, it requires the ongoing transmission of these memories between members of this group.
- Institutional knowledge is gained by organizations translating historical data into useful knowledge and wisdom. Memory depends upon the preservation of data and also the analytical skills necessary for its effective use within the organization.

# Institutional Knowledge

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- The data do we collect
- The information we gain from that data
- How we convert the data to information
- Why we convert the data to information
- Business Processes
- Policies and Procedures
- Ultimately it defines who we are as an organization

# Where Is Your Institutional Knowledge

# “Tribal Elders”

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- What we call them will vary
- Definitions of who they are will vary
- In general
  - Have been with the organization for several years
  - Helped developed processes and procedures
  - Helped implement our Institution’s Systems
  - Know the “Problem Children” and how to handle them
- Most of the time they are “seasoned” employees
  - May even be getting close to retirement



# Where Else Does Knowledge Live

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- Policy and Procedure Manuals
- Process Documents
  - Check lists of how to do jobs
- Program Code
  - Unique code to simplify processes
  - May be duplicated in multiple programs
  - May exist as comments

# I'm Right – You're Wrong

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- Different people turning data into information
- Different results from the data
- Different results lead to confusion
- If everyone is right why are the answers different?
  - Depends on your definition of what the data means
  - Depends on what data is actually being used
- How do we all get the same answer?

# Institutional Knowledge APIs

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- API
  - Application Program Interface
  - Utilizing computer code
- Why not standardize business logic that is needed repeatedly?
- Everyone uses the same logic to get the same answers
- Codify “Tribal” Knowledge

# Two Examples At WSU

# Accounting with the State of Kansas

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- Must send accounting entries to the SoK's System
- Multiple interfaces are used
  - General accounting
  - Payroll accounting
- Conversion of WSU's chart of accounts to the SoK's chart of accounts

# Converting Banner Chart Codes to State of Kansas Chart Codes

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- Rules are well defined
  - Thought was put into chart designs during implementation
- Knowledge is localized
  - Financial Operations and University Computing
- Code started to replicate
  - Interfaces for accounting and payroll
- Conversion needed to be consistent
  - Rules apply to any interface program or query

# Converting Banner Chart Codes to State of Kansas Chart Codes

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- Program Codes
  - Match SoK's but built procedure to perform look-up to be consistent
- Fund Codes
  - Topeka fund pieces are located in our fund chart
  - Levels 1 and 2
- Account Codes
  - Lots of logic for conversion
  - Assets, Liabilities, Revenue, and Expenses have their own rules

# wsu\_fp\_common\_finance is Born

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- Oracle PL/SQL Package
- Contains business logic for:
  - Fund conversion
  - Account conversion
  - Program Code conversion
  - TBRACDT text processing



# The Tale of the Two James Rogers

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- James A Rogers
  - Bo Rogers
- James L Rogers
  - Jim Rogers
- Open enrollment month
- Label query created by HR Super user
  - SELECT DISTINCT
  - One label for James Rogers
- Jim received his open enrollment materials
- Bo did not

# The Tale of the Two James Rogers

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- Both show up in the Faculty/Staff Directory
- Why did Bo get missed?
- How do we prevent this in the future?
- Prime candidate for capturing name logic
- A look at some student system code
  - Name logic here also

# The Tale of the Two James Rogers

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- What's my name?
  - SPRIDEN active row
  - Preferred First Name
  - Professional name
  - SSN Name (Employees)
- Business logic to create name
  - Do you have a professional name?
  - Do you have a preferred first name?
  - Active SPRIDEN row
  - Used to create name for online directory

# Capturing Institutional Knowledge

# Challenges of Capturing Institutional Knowledge

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- Identifying “Tribal Elders”
  - Who has the knowledge
- Identifying all stakeholders for a given process
- Identifying and formalizing a definition of all data needed
- Getting everyone to agree on the defined process and data
- Translating the process into code
- Maintaining the code

# Benefits of Capturing Institutional Knowledge

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- Consolidation of business logic
- Everyone gets consistent answers
  - If your answer is different you must not have used the approved process
- Business process is documented in code
- The concepts, experience, and know-how can transcend an individual
  - Retirement
  - Exploring opportunities outside the organization
  - The premature loss of good individuals

# How to Start

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- Identify ways of doing business in one area
  - The chart of accounts example
- Engage the “Tribal Elders” of that area
- Develop a “Proof-of-Concept”
- Install in a test environment and test
- Let stakeholders utilize and validate the “Proof-of-Concept”
- Install in production once accepted
- Build on success in steps

# Fueling the Imagination Engine

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- Java Training
  - Exposure to Object Oriented Programming
- *Head First Object-Oriented Analysis and Design*
  - O'Reilly Publishing
- *Head First Design Patterns*
  - O'Reilly Publishing
- *Influence without Authority*
  - Allan R. Cohen and David L. Bradford



# Questions and Contact Information

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- Contact Information



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