Dynamic Systems Development Method

Rapid: THe traditional software development model was based on a customer supplier relationship (1970s)

- Used a traditional engineering model
- Create design, construct solution, and deliver to customer
- Fixed contract between customer and supplier
- Big govt agency and software supplier
- Fixed schedule - 1-2 years
- Requirements negotiated up front
- Customers and developers were independent and frequently didn't trust each other

Companies created in house IT departments in 1980s

Customers and suppliers work for the same company

In house development could use a different model

Schedule could trade features for speed
Requirements could not be changed during development
No need to renegotiate contract terms and conditions
Customers and developers work together

RAD: Rapid Application Development

- Reduces development time by substituting prototypes for requirements specifications
- Using existing databases, data models, and tools
- Trading features for speed
- Implementing most important features first
- Adding more features incrementally

RAD Process

1. Requirements planning phase: users, managers, IT staff members discuss requirements
2. User design phase: interact w systems analysts and develop reusable evolutionary prototypes
3. Construction phase: users continue to participate and can still suggest changes or improvements as actual screens or reports are developed
4. Cutover phase: data conversion, full scale testing, system changeover
5. Repeat until done

- **Different techniques:** facilitated joint workshops, evolutionary prototyping evolving into finished products, time boxed incremental delivery (strict schedules that can't be changed, drop features rather than miss the deadline), small teams including users (6-12), CASE tools (rapid GUI development, assumes simple data models)

Dynamic Systems Development Method (DSDM)

- Formalization of RAD
- Purpose: jointly developing and promoting an independent

DSDM Principles

1. There are 9 I didn't type fast enough

Pre-Project Phase

- Develop a high level concept

- Decide whether to start project
- Identify stakeholders, especially visionary (Driving force behind the project) and project manager (manages the project and the people)
- Plan feasibility study

Feasibility Study

- Starts with a Facilitated Joint Workshop (includes users and developers)
- Produce a feasibility report: short business case, suitability of DSDM, early investigation of requirements, can it be accomplished w/ available time and budget?
- Also produces: Outline plan with schedules and budget, risk log
- May produce a first prototype

Business Study

- Another Facilitated Joint Workshop
- Produces: business area definition, prioritized requirements list, development plan, system architecture definition, updated risk log, NO CODE YET

Functional Model Iteration

- PRoduce function model: prototyles: early versions of the system's functionality, documentation
- What is produced, agree how and when to do it, create the product, check that it has been produced correctly

Design and Build iteration

- Continue to refine the current prototype
- Test often
- Result is the current release of system

Implementation

- Installation and deployment
- Represents cutover to operations
- Produce documentation
- Train users

MosCow

- Prioritization of requirements
- **Must** have system is useless without these features
- **Should** have important requirements, but there is a work-around sot aht these can be left out for now
- **COuld** have: consider for future
- **Want** to have
- At each interaction the team decides which requirements to include (focus on must haves 60%) must include some others 20% should 20% want

Time Boxing

- Set deadlines and adjust requirements and resources
- Each increment has a fixed deadline
- Each increment should deliver something useful
- Development team may drop some deliverables in order to meet deadline

Prototyping

- Creating versions that have very little functionality, low fidelity

- Evolutionary rapid prototyping
- Rapid construction of a simple feature, often done with special tools
- This is what I heard... is this what you are saying

Joint Application Design

- Bring users and developers together to solve a problem
- Facilitated joint workshop
- Small team of users and developers work offsite for 1-5 days
- Focus on most important features