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| Development Methodology -  Joint Application Development (JAD)  Joint Application Development, or JAD, is a process originally developed for designing a computer-based system. It brings together business area people (users) and IT (Information Technology) professionals in a highly focused workshop. The advantages of JAD include a dramatic shortening of the time it takes to complete a project. It also improves the quality of the final product by focusing on the up-front portion of the development lifecycle, thus reducing the likelihood of errors that are expensive to correct later on.  The JAD process does for computer systems development what Henry Ford did for the manufacture of automobiles (a method of *organizing* machinery, materials, and labor so that a car could be put together much faster and cheaper than ever before – the assembly line). The goal in systems development is to identify what the users really need and then set up a system or process that will provide it. Traditional methods have several built-in delay factors that get worse as more people become involved.  The following description of the Traditional Systems Design process is from "Joint Application Development" by Jane Wood and Denise Silver ¹. It may sound familiar.  In most organizations, the systems development life cycle begins with the identification of a need, assignment of a project leader and team, and often the selection of a catchy acronym for the project. The leader pursues a series of separate meetings with the people who will use the system or be affected by it.  The leader continues these meetings over time. Often the key people involved are not so easy to reach. But eventually, having documented everything possible, the leader translates copious notes into a personal terminology. That’s when it becomes apparent that the requirements from, say Accounting, don’t mesh with what the Sales department wants. So the leader calls Sales and finds out the contact there is in the field and will not be back until tomorrow. Next day the leader reaches Sales, gets the information, calls Accounting, and of course the person in Accounting is now out of the office, and so on.  When everyone is finally in agreement, alas, the leader discovers that even *more* people should have been consulted because their needs require something entirely different. In the end, everyone is reluctant to "sign off" on the specifications.  Other times, signing off comes easily. But when the system is delivered, it often has little to do with what the users really need:  "A user sign off is a powerless piece of paper"² when matched against the fury of top management.  Slow communication and long feedback time is one reason the traditional process is so time-consuming. You can see why the communication problem grows worse as more people must be brought into consensus.  JAD centers around a structured workshop session. Everyone gets together in a room and talks it out. Everyone hears what the rest of the group has to say. There’s no delay between question and answer, no "telephone tag" or waiting for memos to come back. JAD eliminates many of the problems with traditional meetings. Meetings are not well regarded as a productive form of work. JAD turns meetings into workshops. They are less frequent, more structured, and more productive. An agenda provides the structure, a facilitator directs the process, visual aids clarify concepts being discussed and the group dynamics, with constant feedback, stimulates creativity.  JAD sessions are:   1. Very focused 2. Conducted in a dedicated environment 3. Quickly drive major requirements and interface "look & feel" 4. JAD participants typically include:    * Facilitator – facilitates discussions, enforces rules    * End users – 3 to 5, attend all sessions    * Developers – 2 or 3, question for clarity    * Tie Breaker – Senior manager. Breaks end user ties, usually doesn’t attend    * Observers – 2 or 3, do not speak    * Subject Matter Experts – limited number for understanding business & technology   ¹ Wood, J. and D. Silver, Joint Application Development, 2nd ed., New York : Wiley, 1995. ² Wetherbe, James C., "Executive Information Requirements: Getting It Right", MIS Quarterly, March 1991, p. 51. | |
|  | [Data Warehouse Terminology](http://www.credata.com/research/terminology.html)    [Data Warehouse Methodology](http://www.datawarehouse-training.com/Methodologies/dw-methodology.htm)     [Development Methodology](http://www.credata.com/research/methodology.html)     [Interesting DW Sites](http://www.credata.com/research/dwsites.html)     [Interesting Internet Sites](http://www.credata.com/research/internetsites.html)     [Data Warehouse Classes](http://www.datawarehouse-training.com/) | |
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# Joint Application Development (JAD) - What do you really want?

## So why do I need to know about JADs?

* Ask your client what they want.
* Client signs off on specifications.
* You build and deliver the system according to the specifications.
* Your clients says they want something different.

How **do** you design a system that clients really want? You can't. You have to help clients design the system they want. If you are telling business users how to solve their problems, you are missing the boat. You have to establish a relationship with the client to get behind what they are saying the problem is in order to discover the true underlying problem.

The real problem is typically very different from the one first perceived by the client. Don't just be a problem solver...look deeper. Don't assume that one person ever knows everything about a problem.

## What is a JAD?

**JAD Definition:** Joint Application Development (JAD) is a management process which helps IS work effectively with users to develop information technology solutions that really work.

**JAD Purpose**: to define the project, design a solution, and monitor the project until it reaches completion.

**JAD Philosophy:** The JAD process is based on four simple ideas:

1. People who actually do a job have the best understanding of that job.
2. People who are trained in information technology have the best understanding of the possibilities of that technology.
3. Information systems and business processes rarely exist in isolation -- they transcend the confines of any single system or office and effect work in related departments. People working in these related areas have valuable insight on the role of a system within a larger community.
4. The best information systems are designed when all of these groups work together on a project as equal partners.

**JAD Scope** - The JAD should cover the complete development life cycle of a system. The JAD is usually a 3 to 6 month well-defined project. For large-scale projects, it is recommended that the project be approached incrementally, and that separate JAD's be used for each increment.

## Who is involved in a JAD?

**Sponsor** - this is the executive who charters the project, the system owner. They must be high enough in the organization to be able to make decisions and provide the necessary resources and support for the project.

**Business Users** - the intended users of the system being designed. They are here because of their business expertise. There are two kinds of Business Users; Real End Users and Big Picture Users.

Real End Users will have to use the new system to do their jobs. Big Picture Users understand the standards and methodologies of the business functions. It is important to have both types of users, if you only have Big Picture Users you will end up with a great theoretical model of how things should work, but it may not work in practice, if you just have Real End Users, you will get a good system for today, but it may not work a year or two down the road.

**Systems Analysts** - Provide non-technical explanations that help other JAD members understand and fully utilize the technology available. Monitor design for ease of use/maintenance and adherence to standards. Provide Hardware/software development.

**Important Question to Ask: Do I have all the affected customers/areas represented?**

## Roles of JAD Group Members

**Project Sponsor** - remember, this is the person who owns the business process. Their support and participation is crucial to the success of the JAD. In addition to the project responsibilities listed below, the project sponsor and the lead analyst can share the role of Project Leader, being equally responsible for the successful completion of the JAD.

**Project Sponsor Responsibilities**

* ensure the right clients are part of the group
* ensure there is enough technical staff support for the project
* ensure that software/hardware is purchased as needed for the project
* ensure that the clients are given time off from their regular work to attend the JAD meetings and to perform the tasks they are assigned by the JAD (policy research, gathering information / opinions from other client groups, documentation, testing)
* assign and work on policy research
* delegate tasks to clients who are in the group
* ensure that the client tasks are done
* assist in the selection of test cases
* assist in the definition of the scope and functionality
* assist in benchmarking against current systems and external systems
* help set up quality measures
* evaluate whether the system is effective and efficient

**Project Leader** - the project leader can make or break the project. They need to be committed wholeheartedly to the project, and to have a background knowledge of the business area and current or related information systems. They also need to be committed to The University, and to understand the implications of the project within the context of University goals. They need to be enthusiastic and objective. They need to be sensitive to political issues and able to draw out the opinions of the quiet members of the group, and to not allow any single individual to dominate the group.

**Project Leader Responsibilities**

* work with project sponsor to ensure the right people are in the group
* ensure all roles for the group are filled
* ensure that meetings are scheduled and publicized with agendas
* ensure that agendas are planned and followed
* ensure that meeting notes are taken, and published by the recordkeeper
* edit the notes and make sure they are not a transcript but a concise accurate summary of decisions made (both pro and con) and issues discussed and actions to do (make sure they are available historically if a new member has to join in the middle of a project)
* ensure that tasks are assigned and done, and that a task list is planned and executed in the sequence that it needs to be, with appropriate timelines
* coordinate the technical efforts of the analysts on the team
* do research prior to the meetings to make sure background information is gathered on the appropriate agenda topics
* facilitate the meetings effectively

**Recordkeeper** - The recordkeeper takes comprehensive notes during a session, and then edits them into a concise summary of discussions and decisions. It is important that the resulting notes NOT be transcription of who said what. The role can be shared by various members of the team as needed. Often a well-facilitated meeting will have a note taking recordkeeper, and also someone who records points on an easel pad. The easel pad serves as a ready reference to the group when summarizing discussions, and for return reference on complex points. And it also is a means for the recordkeeper to evaluate the accuracy and thoroughness of their notes.

**Recordkeeper Responsibilities**

* take accurate and thorough notes during the meeting
* ask for clarification on points if anything is not clear
* summarize and condense the notes after the session
* ensure that the JAD leader and project sponsor or other relevant people proof and edit the notes prior to publishing
* publish the notes for all current members of the team and for any other interested parties
* keep a history of the notes for the benefit of any members who join the team in mid-project
* remind the group if they contradict earlier decisions and make sure they know they are in contradiction.

**Timekeeper** - The Timekeeper is responsible for keeping the meeting running on time and helping the group use time wisely.

**Timekeeper Responsibilities**

* makes sure the meeting begins and ends on time
* help the meeting stay on time for each topic on the agenda
* reminds the group that they need to end a discussion in order to have time to summarize and create an action plan in the final minutes of the meeting

**Clients (Users)** - Clients are here because this is a system they use. They understand how this system is used in the real world. They will help the group understand all the tasks handled by the system, correct any misperceptions, search for oversights and supply details. Remember, no detail is too small to mention. Sometimes minor details make a major difference in the way the system should work.

**Typical Client Responsibilities**

* describe the sequence of events in a business process as it affects their office
* describe the decisions that have to be made in a business process
* define the information that the process has to deal with
* define what is critical vs. what would be nice for the first version of the system
* bring up any problems that exist in the current process or any opportunities for making it more efficient
* research policy questions when a new business procedure is being proposed
* analyze if there are any obstacles to success in the current environment of their office for implementing the new system
* create test cases for testing
* run test scripts on the cases
* give the developers feedback on the usability and accuracy and effectiveness of the system in an organized, documented way
* help prepare documentation on how the system works from a client's point of view
* help prepare and implement training for other clients

**Tips for JAD Team Members on How to Talk to Each Other**

* http://www.utexas.edu/hr/is/pubs/analysts
* http://www.utexas.edu/hr/is/pubs/users

**All Team Members** - have the following responsibilities:

* Commitment to the team
* Regular attendance
* Actively listen
* Actively participate
* Identify concerns
* Brainstorm ideas
* Recommend solutions
* Agree upon a design by consensus
* Assist with project duties

## Project Charters/Contract Agreements

Project Sponsor and Project Leader meet to define the problem/challenge and the overall goal of the JAD group and the objectives. Identify what is within the Scope of the Project and what is not within the scope of this project. The Sponsor and the Project Leader need to estimate the resources required and create a first draft of a basic timeline. Finally, the Sponsor and the Project Leader need to determine who should be on teh JAD Team.

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| **JAD Project Charter** | |
| **JAD Project Definition** | |
|  | |
| **In Focus (In Scope)** | **Out of Focus (Out of Scope)** |
|  |  |
| **JAD Objectives** | |
|  | |
| **JAD Project Sponsor** | **JAD Project Leader** |
|  |  |
| **Estimate & Allocate Resources Required** | **Estimate Timeline** |
|  |  |
| **JAD Team Members** | |
|  | |

## Checklist For Getting a JAD Started

1. **Define the Project**   
   The JAD Project Leader meets with the Project Sponsor to complete a JAD Project Charter.
2. **Form the JAD Group**   
   The Project Leader and Project Sponsor form the JAD Group making sure you have all affected areas represented. You will need a Project Sponsor, Project Leader, Business Users and Systems Analysts. A JAD Group should have 8 or fewer total members. It is hard to be effective with more than 15 members.
3. **First JAD Meeting** **- Kick off Meeting**  
   Your first JAD meeting may have the following agenda items:
   * Share problem definition and overall goal. Get consensus on these two items.
   * Train each member of the new group on what a JAD Group is so they will understand the purpose, the roles and how a JAD works.
   * Establish JAD Group expectations/responsibilities.
   * Determine meeting frequency, time and place.
   * Determine roles - Project Sponsor, Project Leader, Recordkeeper, Timekeeper, Clients.
   * Continue holding JAD meetings approximately every week or every other week until you have reached consensus on a design.
4. **JAD Meetings - Planning, Analysis, Design Phase** 
   * Review the current process - map it out
   * Identify Problems/Challenges in the current process
   * Brainstorm solutions for those problems and challenges
   * Benchmark other organizations for possible solutions
   * Consider Buy vs. Build
   * Survey your customers for problems and ideas
   * Evaluate list of generated ideas
   * Determine your course of action - tasks to be accomplished
   * Develop your timebox - list of tasks, who is assigned and when each task is due.
   * Present the Project Design to the Project Sponsor and Representative Customers and Get the Thumbs Up
   * Communicate, Communicate, Communicate
5. **JAD Meetings - Development, Execute, Finish Phase**

Meet every 2 weeks to make sure the development stays on track   
Agenda - how did we do on our goals?

* + Discuss problems and challenges
  + Make decisions jointly
  + Set goals for next meeting
  + Assign tasks

Assign as many of the project duties as possible to members of the JAD - this helps build buy in and a feeling of ownership towards the project.

## How do you know if your JAD is successful?

### Questions to ask

* Are your meetings well attended?
* Are all affected parties involved/aware of decisions being made?
* Did you solve the true underlying problem?
* Is your solution accepted and used by your clients?
* Is the solution available on time?

### Success Factors

* A clear purpose shared by all team members - the project charter
* A diverse team, representative of all areas effected by this project.
* Every person in the group has equal responsibility and decision making power.
* Every idea is valuable. Throughout the JAD, listen and acknowledge each idea and concern. Evaluating ideas during a brainstorming session will shut down the creative process. The best idea may never get said out of fear of being shot down.
* Participation by everyone is very important. Encourage quieter members to speak, they often have the best ideas. Don't allow 1 or 2 members to dominate. This is the facilitators responsibility as well as the whole teams' responsibility.
* Listen when others speak, don't interrupt or talk while others are talking (side conversations may have great ideas...we don't want to miss them).
* Maintain a parking lot to record important issues that are not within the scope of this project.
* Don't hold meetings, just to hold meetings. Only meet when there is something substantial to talk about.
* Don't let more than 3 or 4 weeks pass between meetings, you will loose momentum. Remember, each meeting is a motivation for the team to complete tasks assigned. It is no fun to come to a meeting and admit you didn't finish your task.
* Decisions are reached by consensus. We are here to create a win/win solution...win/lose solutions aren't good enough. You can reach consensus by giving everyone three options:
  + Thumbs up - I agree
  + Thumbs down - I disagree
  + Thumbs sideways - I can support this idea

## Pitfalls:

* Sponsor not really committed - no resources
* Unclear goals or objectives - lack of direction
* Too many or too few members
* Not enough communication with outsiders affected by decisions
* Timelines aren't kept
* Project Creep - project grows beyond the original definition and scope
  + if this really needs to happen, it is time to rewrite the project charter
* Meetings aren't well facilitated
  + don't have an agenda
  + don't stick to agenda
  + don't begin or end on time
  + feels like nothing is accomplished in the meeting - old items not within scope keep getting revisited over and over
  + 1 or 2 members dominate discussions

## JAD Group Benefits

* Communication, Communication, Communication
* Build consensus and ownership
* Improve design quality - combined knowledge = better solutions
* Design cross-functional solutions
* Helps project teams get focuses and stay focused
* Helps you get the right job done at the right time



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