

**Joint Application
Development**

A Technique Guide

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1.0 WHAT IS JAD ?

Joint Applications Development is a results-oriented approach to collecting high quality information and developing project products in a compressed time frame using facilitated workshops (JADs).

The facilitated workshop uses a neutral facilitator to guide participants through a structured process. The process is designed to produce one or more project products interactively with the workshop participants. The process is developed as a detailed agenda before the workshop takes place.

There are a number of roles that must be played in a workshop which means that each individual can play to his/her own strengths.

Joint Applications Development can be used for many activities involved with project management, strategic planning and applications development. It can also be used independently of a methodology, in any situation where a consensus is required on a subject from a group of people.

2.0 HISTORY OF JAD

JAD was originally developed by IBM in 1977 and was born out of their frustration with trying to obtain user agreement on the requirements and design of distributed manufacturing systems (the old 8100 hardware).

JAD was created as a learning tool to aid IBM it was needed in the mid-1970s because of the newness of computers. The original purpose of JAD was to provide education to the business partners. As such, it follows a structured analysis process that is based on a generic workflow function decomposition.

Realising the benefits of JAD, IBM introduced JAD to the software development process via its U.S. professional services team. The technique proved to be a great success and was revamped and re-launched by IBM in 1984.

Today, JAD is a core technique used in many client / server methodologies and is forms part of the approach recommended by the DSDM consortium.

3.0 WHAT DOES JAD BUY ME ?

Joint Applications Development provides a number of benefits over traditional approaches, it:

- increases productivity by carrying out tasks in a single workshop that otherwise may take several weeks or months to complete using more traditional information gathering and decision making approaches
- improves the quality of products by promoting involvement from all parties interested in the product
- improves communication and reduces the chances of misunderstanding
- increases creativity by involving many people in design activities
- simplifies project planning by combining many activities carried out independently by many people into single workshops
- removes project teams from the function of intermediary in the negotiation and resolution of conflicts by directly involving all interest groups.

4.0 THE STEHLE APPROACH

The approach used by Stehle Associates is a three stage process. We advocate that facilitators start by planning the workshop, they then run the workshop and then consolidate the results. The approach can be used for a single workshop on a project or multiple workshops. Multiple workshops can be planned together, or the three stage process can be used repeatedly. The three stages of the process are outlined below:

Planning Stage

The purpose of the first stage is to determine how to apply JAD to the project. The most appropriate way to use JAD on the project is established, including the types and numbers of workshops required, the techniques to use, and most significantly, the selection of participants.

To be successful, senior management of the business community and the information systems organisation must be committed to and support the JAD approach. This commitment needs to be demonstrated by making the business partners available to participate in the workshops.

A schedule for carrying out the workshops should be established and incorporated into the overall project plans.

An agenda should be prepared for each workshop. This will include, a definition of the purpose, scope, objectives and deliverables of the workshop. Ground rules to be applied in the workshop in order to maximise the effectiveness of the time invested are also established.

The main part of the agenda should address how the deliverables are to be developed.

It is at this point where the specific methodology and techniques used by an organisation are incorporated into the standard agendas. A decision on whether or not a CASE tool to produce the deliverables in the workshop should also be made during this stage.

Any visual aids and other materials to be used in the workshop should be identified and, if necessary, developed. The logistics (location, meals, etc.) for each workshop may also need to be considered addressed.

Execution Stage

This is the running of the workshop as defined in the workshop agenda.

Workshops should be led by trained facilitators.

There are two modes of workshop facilitation:

- The first, and most common, is neutral facilitation where the participants are solely responsible for the content of the workshop deliverables and the facilitator is responsible for the workshop process.
- The second mode is to provide active leadership to the workshop participants. The facilitator, who is also completely conversant with structured techniques, takes responsibility for the technical quality of the workshop deliverables as well as conducting the workshop.

The most appropriate mode of facilitation must be determined for each workshop during the planning stage.

In our experience, workshops are successful when some time and effort has been devoted to planning the planning stage

Consolidation Stage

There will usually be a few issues that could not be resolved during the workshop. An action plan to address these issues should be established as part of the workshop. These issues can be resolved outside of the workshop process and possibly reviewed at a subsequent workshop.

The deliverables from the workshop should be input into a drawing tool or a word processing package after the workshop. The workshop deliverables should be distributed to participants shortly after the workshop (48 hours) for their review.

There are some workshops where the use of a CASE tool or another PC based tool is appropriate.

Our philosophy for JAD is one of continuous improvement. Each workshop should be reviewed to determine successful aspects of the workshop and any areas of improvement.

5.0 ROLES AND RESPONSIBILITIES

Facilitator

The Facilitator is responsible for designing the process and carrying this out in the workshop. The Facilitator is responsible for the process during the workshop, but not the content of the discussion and the resulting products.

Executive Sponsor

The Sponsor should know why the organisation is carrying out the project. The Sponsor is in a position to evaluate the benefits to be derived from the project against the costs. This person is normally a senior business manager and is in a position to encourage people to participate in the workshops. The executive sponsor may be asked to kick-off one or more workshops, and may be a participant in high level workshops.

Project Manager

The Project Manager is responsible for the project. The Project Manager manages the resources devoted to the project and should be closely involved during the planning stage of Joint Applications Development. During a workshop the Project Manager is a participant.

Participants

Participants are responsible for the content of the workshop Outputs. Participants will usually be business people and project team members. Sometimes it will be necessary to ask specialists to participate in workshops (e.g., technical support staff for a technically-oriented workshop).

Observers

There may be occasions where there are people who are interested in attending a workshop, but will not make a direct contribution to the workshop Outputs. These may include:

- people who want to use interactive development and want to become familiar with the approach
- project team members who do not have a direct contribution to make in the workshop, but will gain an understanding of the business area.
- Observers are not allowed to talk during a workshop.

Scribe

The scribe is responsible for recording the results of the workshop, either manually or by using a CASE tool or other computer software in an organised, consistent manner.

The Scribe does not edit, paraphrase, or make the documentation his/her own. The Scribe must maintain an objective and neutral role throughout the workshop. Any judgement/evaluation of the data, or bias, may lead to a distorted record of the group's ideas.

The Scribe also supports the Facilitator in terms of the detailed logistics of running the workshop (e.g., managing flip charts and other materials).

It may be necessary to have two Scribes in some workshops, depending on the workshop process, products and documentation techniques.

6.0 AGENDA

The agenda, prepared prior to the actual workshop is an indispensable element of Interactive Development. All participants should receive an agenda befitting their role within the workshop prior to the JAD session.

Two agenda should normally be created, one for publication and one for the facilitators own use. The facilitator's agenda forms a mini project plan for the session. It should be used to visualise the session beforehand and to check timings and the flow of the session. You will find an example agenda in Appendix 1.

7.0 GROUND RULES

We recommend that you always use Ground Rules. The basic ones that we use are:

- One conversation
- One topic at a time
- Park issues for later resolution
- Facilitator calls time-outs and breaks
- Be on time

8.0 PARKING LOT

There will always be some issues that arise during a workshop session that cannot be resolved immediately. This is usually because consensus cannot be reached in a reasonable time-frame, or because the right people are not in the workshop. The Stehle approach is to set up a "Parking Lot" and to park issues during the workshop. The penultimate step in the workshop is to review the Parking Lot Issues and to develop a short term action plan for their resolution.

9.0 BEING A GOOD FACILITATOR

Generally, a good facilitator will:

- be a good presenter, leader and listener
- remain neutral
- be skilled in the techniques being used
- be a diplomat because there will be many diverse opinions expressed during a workshop and it is the Facilitator's responsibility to bring the group to consensus
- be a negotiator to explain ideas among/between people
- be a salesman to sell the approach/agenda used
- understand group dynamics to get the most out of the participants.
- understand people because people are diverse and have a range of personalities. For example, a facilitator needs to draw information from the most quiet and hesitant people, without making them feel too uncomfortable, while politely telling noisy, forward people to quieten down.
- understand body language, because actions speak louder than words. Try to pick a few obvious things that people in the class are doing at that particular moment, or that have already happened. These can be obvious things like rolling their eyes skyward, or falling asleep, or more subtle things like sitting forward or back in their chair, which suggests interest or disinterest, or crossing their arms which suggests disagreement.
- talk clearly, because it is important for the Facilitator to be easily and clearly understood by the participants.
- have a sense of humour because a Facilitator needs to remain sane (at least while the workshop is in progress) and may need to de-fuse certain situations and humour is a good tool for this.
- manage conflict
 - appraise the nature and severity of the conflict
 - act in a directly helpful way
- be a problem solver
 - stating the problem/issue and turning it into a goal statement

- re-defining a problem in a new way
- helping the person to express doubts or fears about why it "won't work"
- listing options/action plans - different ways to tackle the problem
- make decisions
- be able to summarise the points made
- pulling themes together
- re-organising information to make it clearer
- showing relationships among various ideas

APPENDIX 1 : SAMPLE AGENDA

Extract from Facilitator's agenda

Session One 10:20am - 11:20am

Determine Project Scope

Objectives:

To set the project boundaries, and identify the objectives, major requirements and constraints within which the project must operate.

Participants:

Business and management representatives, and systems developers.

Steps:

1. Establish Baseline
2. Produce a Data Flow Diagram for the Scope
3. Produce the Scope Data Model
4. Determine Major Objectives
5. Determine Business Requirements
6. Establish Constraints

Workshop Inputs:

Highlights from Strategic Plan (if available)
Highlights from Feasibility Study (if available)

Workshop Outputs:

Project Scope defined by:

- Data Flow Diagram (scope)
- Data Model (scope)
- Problem/Requirement List with objectives,
- major requirements,
- constraints.

Customisation Considerations:

This agenda will have to be modified based on the previous work done on the project. The main modifications will be to have review sessions instead of creative sessions. The agenda as described assumes minimal previous work.

Details

Step 1 *Establish Baseline*

Purpose

This step establishes the information already available about the scope of the project.

Expected Output

The participants should all agree on the starting point for the workshop.

Process

Depending on the specific workshop, there could be a variety of levels of information available prior to this workshop. The project may be part of a strategic plan, or follow on from a feasibility study. These previous studies may have already defined the scope of the project in the form of a data flow diagram, data model and problem/requirements list. An equally likely situation is where no work has been done on the project at all. It is just someone's bright idea.

The start point should be established before the workshop. Any previous work that will be used as the start point should be reviewed with the group in this step.

To review previous work, walk-through a prepared presentation. Consider providing participants with the baseline information as pre-reading for the workshop. Be careful that you do not provide too much information, or assume that people will understand models if they do not know the techniques.

Documentation

None.

Closure

Gain consensus from the Group that they agree with the start point.

Step 2 *Produce a Data Flow Diagram for the Scope*

Purpose

To produce a level one Data Flow Diagram (and optionally a context diagram) to reflect the scope of the project. This should take one to two hours.

Expected Output

A level one Data Flow Diagram picture.

Process

- If any participants in the group have only limited exposure to Data Flow Diagrams, give an overview presentation of the technique.
- Create an Information Flow Diagram for the system to be investigated.
- Brainstorm for key documents and information flows.

- If there are more than 15 information flows on the final brainstorm list, ask the group to help you refine the list. You can do this in two ways:
 - Identify the major information flows involved with the normal way of doing business and refer to the remaining flows as 'minor'. These will be used later in the project but are not required for the scope data flow diagram.
 - Group similar flows together. For example, all flows to do with billing a client. Also, exclude inquiries and any obvious exception cases.
 - Determine an appropriate name for each flow and group of flows if appropriate.
 - Brainstorm for sources and recipients.
- Build the Information Flow Diagram on the white-board in front of the group. The Scribe should prepare a symbol for each source/recipient. These are placed on the wall and the flows are drawn on the wall to create the information flow diagram. Make sure the group tells you where to put the flows.
- When all the major flows have been included in the diagram, determine the scope of the project using the diagram and agree on the system boundary, i.e. the scope of further systems analysis and design.

Create Level One Data Flow Diagram

- Pick a flow which crosses the system boundary and draw it on the white board along with the source/recipient symbol.
- Ask for a "receiving" and/or "generating" process for the flow. Agree on the process name. Place a process symbol, prepared by the Scribe on the white-board.
- Ask for the data stores necessary for the process and agree on a name. Place a data store symbol, prepared by the Scribe in an appropriate place on the white-board.
- Identify the flows to and from the data stores, agree on the names and draw them on the white-board connecting the process and the data store.
- Repeat the process for all flows crossing the system boundary.
- Review for completeness and consistency, and add any additional processes, flows and data stores as required.

Documentation

The Scribe performs the following tasks during this step:

- manages the flip charts during brainstorming,
- makes a copy of the refined brainstorm list,

- prepares symbols for sources and recipients, processes and data stores,
- makes a copy of the data flow diagram,
- makes a copy of the information flow diagram,
- makes Parking Lot entries as directed by the Facilitator.

Closure

Ensure that everyone understands and agrees with the system boundary. If there is a problem agreeing on the exact scope, a context diagram may be produced.

Review the data flow diagram produced and obtain agreement from the group.

Ensure that everyone understands that this is a starting point and that it will be built upon and refined later in the project.

APPENDIX 2 : JAD TO DO LIST

Organiser, Have you remembered to:

- Book a suitable room
- Arrange for two flip charts, flip chart pens and masking tape
- Invite your participants
- Arrange a facilitator and a Scribe
- Distribute the agenda

You may also need to :

- Book a data show and a powerful OHP
- Arrange for a portable PC

Facilitator, Have you remembered to:

- Discuss the objectives and agenda with the organiser
- Discuss the potential participants with the organiser
- Prepare a detailed facilitators agenda based on the standard format
- Prepare an agenda
- Prepare sample deliverables

You may also need to :

- Prepare and distribute pre-JAD reading material
- Prepare presentation slides

APPENDIX 3 : JAD CHECKLIST

JAD Check Sheet

Project Name:	Date/Time :	Type/Room:
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Attendees:

Overview of Project:

Expectations:

Check List

- Flip Chart
- White Board
- Data Show
- Pens
- Tape
- Pins
- Ground Rules
- Parking Lot
- Facilitators Agenda
- Agenda

Notes: