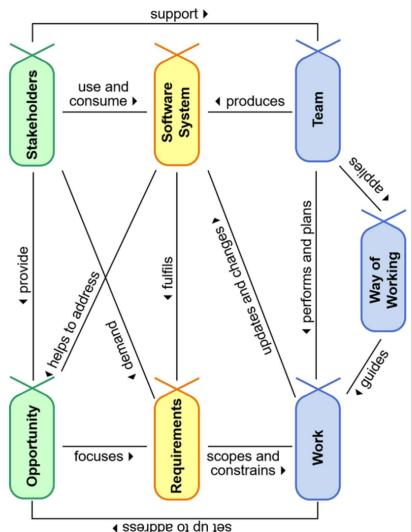


## Essence Kernel Alphas



## Stakeholders

The people, groups, or organizations who affect or are affected by a software system.

Recognized

Represented

Involved

In Agreement

Satisfied for Deployment

Satisfied in Use



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## Stakeholders

Recognized

- Stakeholder groups identified
- Key stakeholder groups represented
- Responsibilities defined

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## Stakeholders

### Involved

- Representatives assist the team
- Timely feedback and decisions provided
- Changes promptly communicated

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## Stakeholders

### In Agreement

- Minimal expectations agreed
- Rep's happy with their involvement
- Rep's input valued
- Team's input valued
- Priorities clear & perspectives balanced

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## Stakeholders

### Satisfied for Deployment

- Stakeholder feedback provided
- System ready for deployment

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## Stakeholders

### Satisfied in Use

- Feedback on system use available
- System meets expectations

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## Opportunity

The set of circumstances that makes it appropriate to develop or change a software system.

Identified

Solution Needed

Value Established

Viable

Addressed

Benefit Accrued



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## Opportunity

Identified

- Idea behind opportunity identified
- At least one investing stakeholder interested
- Other stakeholders identified

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## Opportunity

Solution Needed

- Solution identified
- Stakeholders' needs established
- Problems and root causes identified
- Need for a solution confirmed
- At least one solution proposed

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## Opportunity

Value Established

- Opportunity value quantified
- Solution impact understood
- System value understood
- Success criteria clear
- Outcomes clear and quantified

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## Opportunity

### Viable

- Solution outlined
- Solution possible within constraints
- Risks acceptable & manageable
- Solution profitable
- Reasons to develop solution understood
- Pursuit viable

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## Opportunity

### Addressed

- Opportunity addressed
- Solution worth deploying
- Stakeholders satisfied

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## Opportunity

### Benefit Accrued

- Solution accrues benefits
- ROI acceptable

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## Requirements

What the software system must do to address the opportunity and satisfy the stakeholders.

### Conceived

### Bounded

### Coherent

### Acceptable

### Addressed

### Fulfilled



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## Requirements

### Conceived

- Stakeholders agree system is to be produced
- Users identified
- Funding stakeholders identified
- Opportunity clear

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## Requirements

### Bounded

- Development stakeholders identified
- System purpose agreed
- System success clear
- Shared solution understanding exists
- Requirement's format agreed
- Requirements management in place
- Prioritization scheme clear
- Constraints identified & considered
- Assumptions clear

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## Requirements

### Coherent

- Requirements shared
- Requirements' origin clear
- Rationale clear
- Conflicts addressed
- Essential characteristics clear
- Key usage scenarios explained
- Priorities clear
- Impact understood
- Team knows & agrees on what to deliver

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## Requirements

### Acceptable

- Acceptable solution described
- Change under control
- Value to be realized clear
- Clear how opportunity addressed
- Testable

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## α Requirements

### Addressed

- Enough addressed to be acceptable
- Requirements and system match
- Value realized clear
- System worth making operational

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## α Requirements

### Fulfilled

- Stakeholders accept requirements
- No hindering requirements
- Requirements fully satisfied

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## α Software System

A system made up of software, hardware, and data that provides its primary value by the execution of the software.

### Architecture Selected

### Demonstrable

### Usable

### Ready

### Operational

### Retired



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## α Software System

### Architecture Selected

- Architecture selection criteria agreed
- HW platforms identified
- Technologies selected
- System boundary known
- Decisions on system organization made
- Buy, build, reuse decisions made
- Key technical risks agreed to

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## Software System

### Demonstrable

- Key architectural characteristics demonstrated
- System exercised & performance measured
- Critical HW configurations demonstrated
- Critical interfaces demonstrated
- Integration with environment demonstrated
- Architecture accepted as fit-for-purpose

2 / 6



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## Software System

### Usable

- System can be operated
- System functionality tested
- System performance acceptable
- Defect levels acceptable
- System fully documented
- Release content known
- Added value clear

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## Software System

### Ready

- User documentation available
- System accepted as fit-for-purpose
- Stakeholders want the system
- Operational support in place

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## Software System

### Operational

- System available for use
- System live
- Agreed service levels supported

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## Software System

### Retired

- Replaced or discontinued
- No longer supported
- No authorized users
- Updates stopped

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## Team

A group of people actively engaged in the development, maintenance, delivery or support of a specific software system.

### Seeded

### Formed

### Collaborating

### Performing

### Adjourned



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## Team

### Seeded

- Mission defined
- Constraints known and defined
- Growth mechanisms in place
- Composition defined
- Responsibilities outlined
- Required commitment level clear
- Required competencies identified
- Size determined
- Governance rules defined
- Leadership model selected

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## Team

### Formed

- Enough members recruited
- Roles understood
- How to work understood
- Members introduced
- Individual responsibilities accepted and aligned to competencies
- Members accepting work
- External collaborators identified
- Communication mechanisms defined
- Members commit to team

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## Team

### Collaborating

- Works as one unit
- Communication open and honest
- Focused on mission
- Members know each other

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## Team

### Performing

- Consistently meeting commitments
- Continuously adapting to change
- Addresses problems
- Rework and backtracking minimized
- Waste continuously eliminated

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## Team

### Adjourned

- Responsibilities fulfilled
- Members available to other teams
- Mission concluded

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## Work

Activity involving mental or physical effort done in order to achieve a result.

Initiated

Prepared

Started

Under Control

Concluded

Closed



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## Work

### Initiated

- Required result clear
- Constraints clear
- Funding stakeholders known
- Initiator identified
- Accepting stakeholders known
- Source of funding clear
- Priority clear

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## Work

### Prepared

- Commitment made
- Cost and effort estimated
- Resource availability understood
- Risk exposure understood
- Acceptance criteria established
- Sufficiently broken down to start
- Tasks identified and prioritized
- Credible plan in place
- Funding in place
- At least one team member ready
- Integration points defined

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## Work

### Started

- Development started
- Progress monitored
- Definition of done in place
- Tasks being progressed

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## Work

### Under Control

- Tasks being completed
- Unplanned work under control
- Risks under control
- Estimates revised to reflect performance
- Progress measured
- Re-work under control
- Commitments consistently met

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## Work

### Concluded

- Only admin tasks left
- Results achieved
- Resulting system accepted

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## Work

### Closed

- Lessons learned
- Metrics available
- Everything archived
- Budget reconciled & closed
- Team released
- No outstanding, uncompleted tasks

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## Way of Working

The tailored set of practices and tools used by a team to guide and support their work.

### Principles Established

### Foundation Established

### In Use

### In Place

### Working Well

### Retired



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## Way of Working

### Principles Established

- Team actively support principles
- Stakeholders agree with principles
- Tool needs agreed
- Approach recommended
- Operational context understood
- Practice & tool constraints known

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## Way of Working

### Foundation Established

- Key practices & tools selected
- Practices needed to start work agreed
- Non-negotiable practices & tools identified
- Gaps between available and needed way of working understood
- Gaps in capability understood
- Integrated way of working available

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## Way of Working

### In Use

- Practices & tools in use
- Regularly inspected
- Adapted to context
- Supported by team
- Feedback mechanisms in place
- Practices & tools support collaboration

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## Way of Working

### In Place

- Used by whole team
- Accessible to whole team
- Inspected and adapted by whole team

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## Way of Working

### Working Well

- Predictable progress being made
- Practices naturally applied
- Tools naturally support way-of-working
- Continually tuned

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## Way of Working

Retired

- No longer in use
- Lessons learned shared

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## MOVE FROM PROCESS TO PRACTICES

- Get started with IJI's Library of Practices
- Ready to go practices to get you up and running quickly

[ivarjacobson.com/  
practicelibrary](http://ivarjacobson.com/practicelibrary)

## IJI PRACTICE WORKBENCH

- Compose and publish your own methods with IJI's Practice Workbench
- Create print-ready cards or export to HTML

[ivarjacobson.com/  
practice-workbench](http://ivarjacobson.com/practice-workbench)

## IJI SUSTAINABLE CHANGE FRAMEWORK

- Achieve consistent and lasting adoption of your agile techniques across your broad communities of practices!
- IJI's Framework and Consulting Services can help guide you.

[ivarjacobson.com/  
sustainable-agile-transformation](http://ivarjacobson.com/sustainable-agile-transformation)

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## Resources

- Essence Standard (OMG), refer to <http://www.omg.org/spec/Essence/1.1/>
- The Essence of Software Engineering: Applying the SEMAT Kernel, by Ivar Jacobson, Pan-Wei Ng, Paul E. McMahon, Ian Spence and Svante Lidman, Addison-Wesley 2013.



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