

Process Overview

The production is one of the key pillars in the Indpro organization. It is a process that creates a platform for following a software development project from inception to end over the course of 4 different phases.

Each phase is designed to build on and maintain the quality throughout the entire process. In addition Indpro also relies on different methodologies/process tools to track the project and progress it and work in a tight relationship with the client.

The projects are also always overseen by a Swedish technical coordinator in Sweden as well as a production manager or what we refer to as a Scrum Master on-site in India. This, and our experience working with software development projects on a offshore outsourcing model, gives us a good basis for completing projects successfully.

The Indpro logo consists of the word "Indpro" in a sans-serif font. The "Ind" is in orange and "pro" is in red.

SCRUM@INDPRO

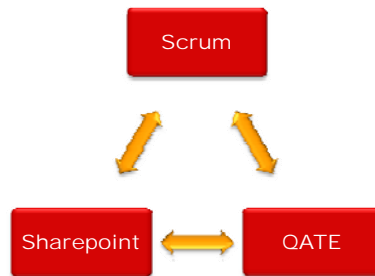
Methodology & Process Tools

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SCRUM@INDPRO

To help us achieve developing quality products for our clients Indpro makes use of the following methodologies and tools:

- *The Agile method of Scrum*
- *QATE Development Process*
- *Sharepoint Workspace Environment*



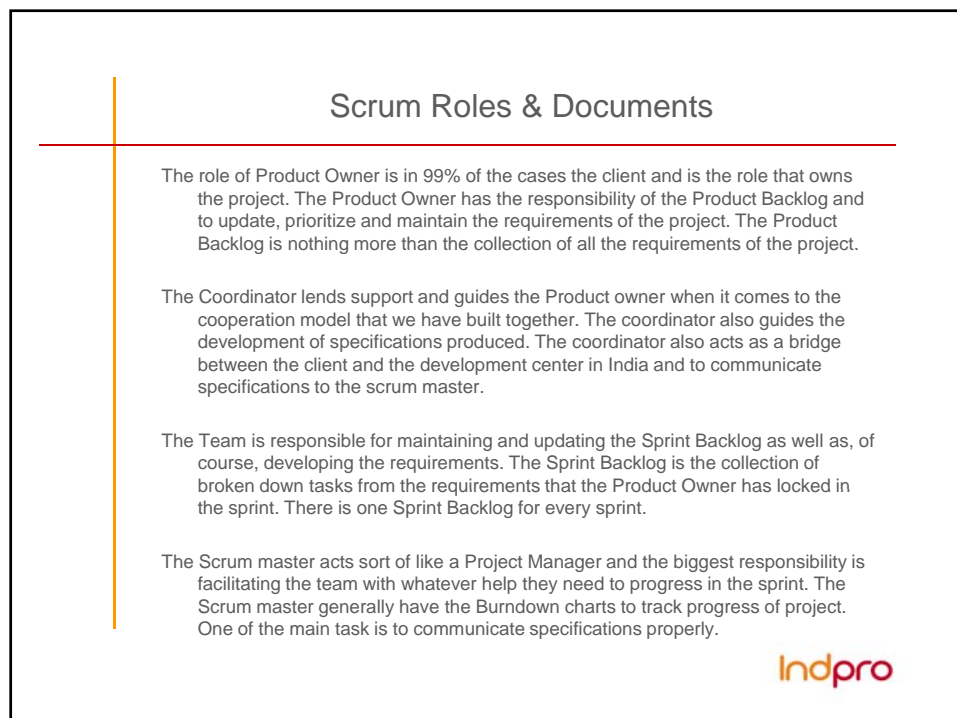
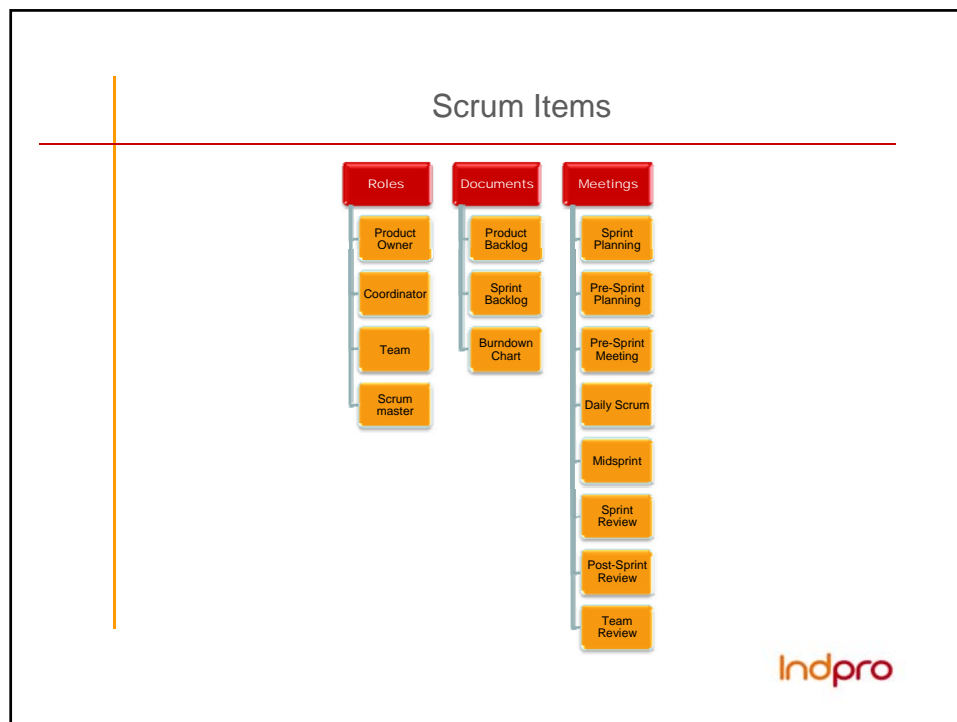
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Scrum

Scrum is an agile method that relies on iterative releases. The length of each iteration, or sprint as it is called, varies depending on team size and client requirements but Indpro generally works with 1 week or 2 week sprints. It gives the client the opportunity to receive working code at the end of every sprint for quicker reviewing and feedback and continuously building up the application with working functionality.

There are basically 15 separate items in Scrum that Indpro utilizes.

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Scrum Meetings

Before a sprint meeting, a Pre-Sprint meeting is held between the PO and the Coordinator. The main goal is to verify, review, and secure the quality of the requirements.

After the Pre-Sprint meeting, the coordinator and Scrum Master conduct a Pre-Sprint Planning to go through and discuss the requirements.

To start a sprint a Sprint Planning meeting is held where the Product Owner presents and locks the requirements that is of highest priority to him/her in the sprint. The team commits to completing those, granted it is not more work than the actual sprint length. The team have the opportunity to clarify any requirement they don't understand during the meeting. Present at the meeting is the team, PO, Coordinator and Scrum Master.

The team conducts a short scrum meeting on a daily basis to keep track on the development, progression and raise important issues .



Scrum Meetings

If the sprint length is two weeks or longer we generally like to hold a midsprint meeting at the halfway point of the sprint to do a health checkup and clear any issues or doubts that have arisen during development. Here we have the opportunity to "push back" tasks into the Product Backlog if we feel they will not be completed within the sprint. Present is PO, team, coordinator and scrum master.

At the completion of the sprint a Sprint Review meeting is held to review the output. The review can be done in various ways. Sometimes the client only requires a packaged release as a zipped format but it could just as well be held as a demo session using desktop sharing or any other format.

After the Sprint review a Post-Sprint Review is held between the PO and Coordinator to go through the delivery and possible changes required.

Shortly after Post-Sprint Review the team, coordinator and scrum master get together in a team review to discuss the delivery and feedback in more detail to make possible improvements for future sprints.

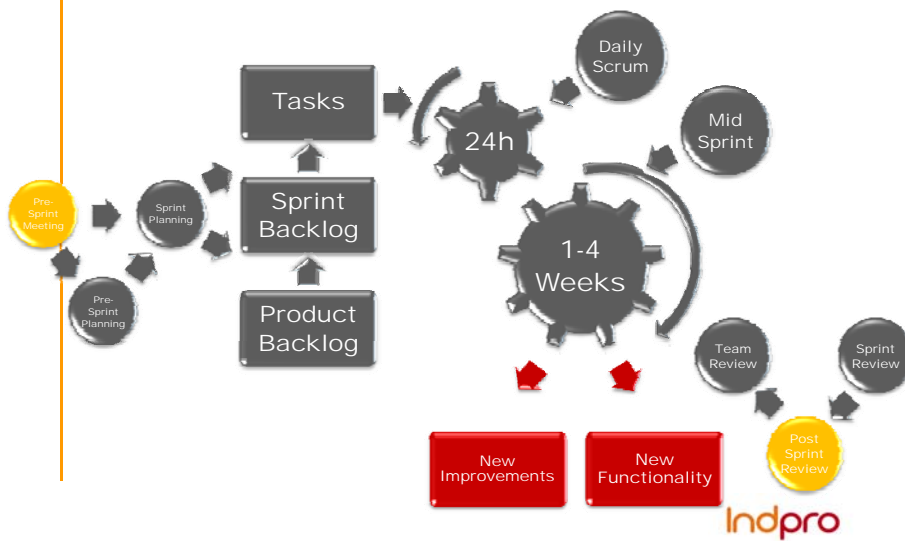


Scrum Summary

These scrum items comes together into practice in the Scrum@INDPRO Process (next slide).



Scrum Summary



QATE

QATE stands for Quality Assurance & Testing Environment. It is a development process that Indpro has created to ensure that all code being developed is following strict quality standards and is always tested and reviewed properly before release.

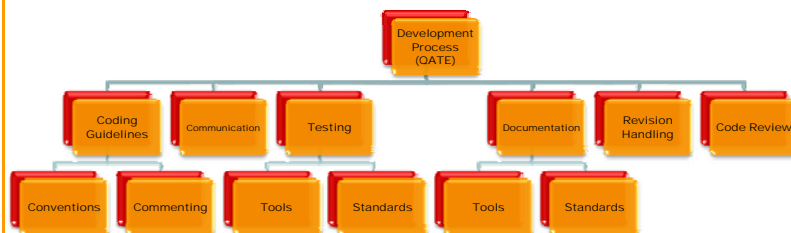
QATE is integrated in the development process described previously.

The QATE is the first thing a newly joined developer in the company must learn and adhere to. In addition to lay the guidelines for the development of code it also covers the various tools and how to use them for the purpose of testing (manual, Unit), documentation (JDoc, Sandcastle etc) and describes the procedure for conducting code reviews. Additionally it also describes the correct procedure and structure for version handling.

QATE is something that we always refine and change according to the clients and their best practices.

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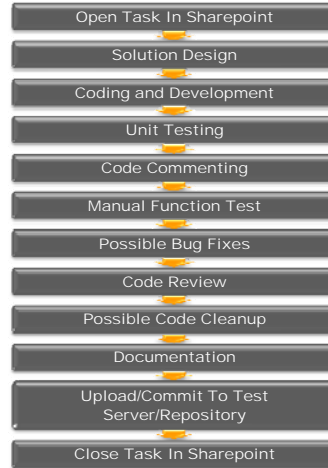
QATE Content



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QATE Development Steps

A developer must, for each task, follow a series of predefined steps before the task can be considered as completed. It is always recommended that steps 3 through 5 are conducted in a parallel fashion.



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Sharepoint

Indpro utilizes the Sharepoint environment from Microsoft to track and document our projects. It also forms a centralized hub of information that both developers, managers and clients can access. On the Sharepoint portal each project gets its own dedicated workspace containing:

- Product Backlog
- Sprint Backlogs
- Burndown Charts
- Discussion Forum
- Calendar
- Shared Project Documents
- Daily Scrum Reports

All members of a workspace can upload documents, add tasks, topics of discussion etc. and contribute to the information content and flow.

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Sharepoint Snapshot Example

Sharepoint site for training purposes

Sprint 1 - Backlog

ID	Title	Assigned to	Status	PR Item	Hours remaining	Comments
Count = 3						
1	Task 1 [New]	Tom Bergsten	In progress	Requirement 1	12	
2	Task 2 [New]		Not started	Requirement 1	8	
4	Task 4 [New]	Anders Dalund	On hold	Requirement 2	6	Dependent on completion of Task 1

Team Discussion

Subject	Post type
Issue 1 [New]	Pending issue
Our new standards of variable names [New]	General

Announcements

- New Specification Uploaded [New] 2008-06-16 07:12 by Tom Bergsten
- Please find under Shared Documents/Project Specifications
- Add new announcement

Calendar

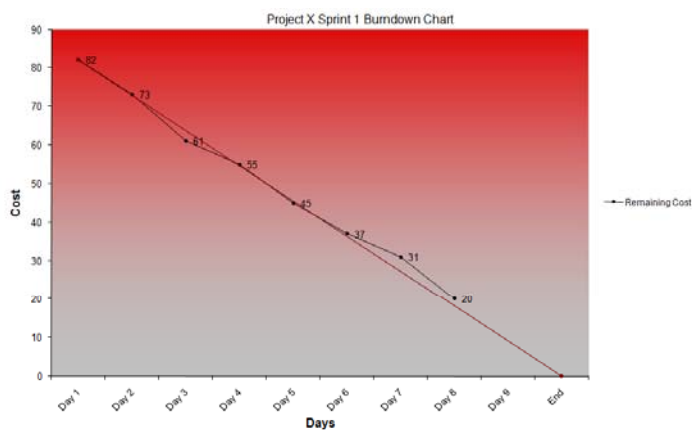
- 2008-06-16 00:00 Sprint 1 Daily New
- 2008-06-22 12:30 Mid Sprint Meeting [New]
- 2008-06-30 12:30 Sprint 1 Review [New]
- 2008-06-30 12:00 Sprint 2 Planning [New]
- 2008-06-30 12:30 Sprint 2 Start [New]
- Add new event

Shared Documents

Type	Item	Modified By
Project Specifications	Tom Bergsten	Tom Bergsten
Burndown Charts	Tom Bergsten	Tom Bergsten
Sharepoint Data	Tom Bergsten	Tom Bergsten

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Sharepoint Burndown Chart Example

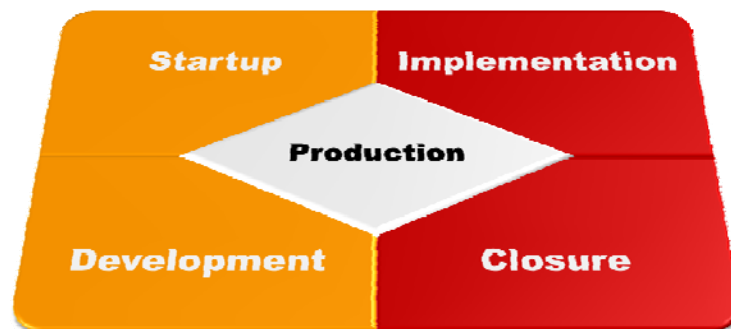


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The Production Process

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The Production Phases



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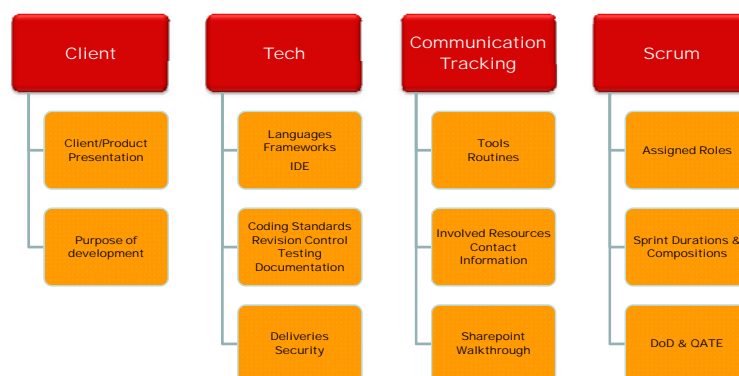
Startup

The start-up phase is designed to document, guarantee and secure all parameters of the project. It sets the guidelines, standards and routines that the project will adhere to. Representatives from the Swedish branch of Indpro or more specifically the Coordinator (most often a CTO) conducts one or two workshops together with the client before project start to achieve this. Furthermore during the startup phase the Sharepoint workspace for the project is created and resources are allocated.

Recommended time to conduct the Startup phase is 8-16 hours.

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Startup Workshop Content



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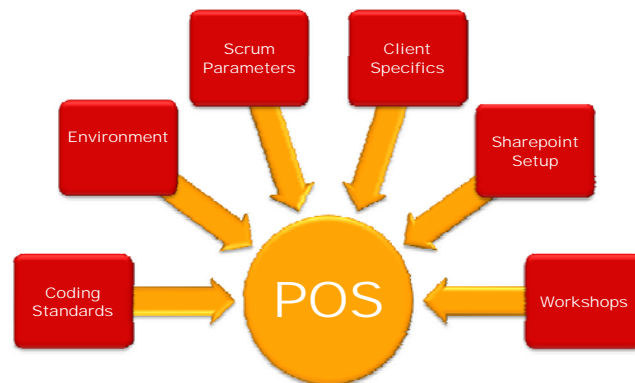
Startup POS

When all relevant information has been presented and gathered it is compiled into a document called the Project Overview Statement (or POS for short). This is a living document that will be updated if any changes occur to the standards and routines stated in there.

The POS will be delivered to India to the allocated project manager(s) and developer (s) for study. This enables them to have a more complete view of the project and its standards in preparation for project start.

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Startup Summary



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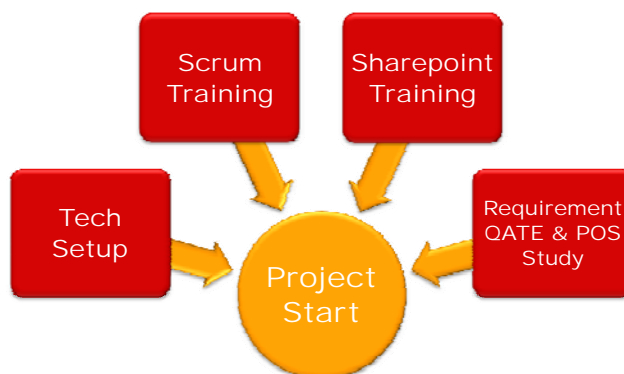
Implementation

After the startup phase is completed (i.e. the POS has been created and delivered, Sharepoint environment is set up and resources are in place) follows the Implementation phase. This phase is designed to implement all the parameters set in the POS and the Startup phase.

Essentially this means study the POS, study QATE, study the clients requirements, setup all technologies/environments and train the resources in using Sharepoint and Scrum. This will enable us to start the project with all the knowledge in place and no overhead time is needed for studies and environment setup during the development phase. Recommended time for the Implementation phase is 1-2 weeks.

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Implementation Summary



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Development

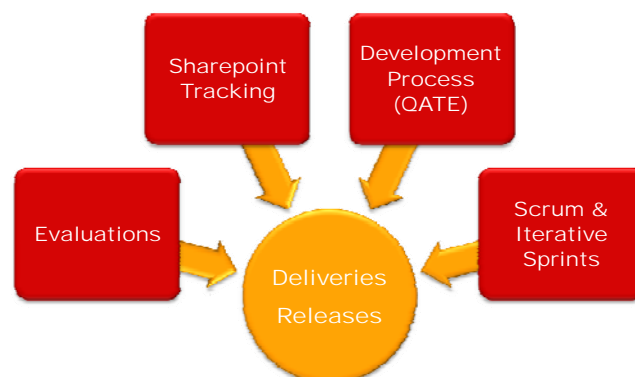
The Development phase of the production is where the actual coding and work is being done on the project. It is here we utilize all the knowledge and training from the Startup and Implementation phases to produce releases for the client at the end of every sprint. There is always the possibility to change parameters during development, e.g. increasing/shortening sprint lengths if the client wishes.

Also during the course of the Development phase we continuously evaluate the project to find areas for improvement. This is usually done through an evaluation form in pdf format sent to the client where he or she can grade the team on 20 different points spanning from language skills to select coding skills. This can be done as often as every three months if the client wishes so. Indpro carries out internal training sessions to increase a developer/team within a certain subject if it is needed.

Naturally, this phase lasts up until the end of the project and it is time to make the final release.

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Development Summary



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