About agile activity

Agility is today’s name of the game. This presentation is about general issues regarding agility. Also, some reflections of the principles to agile testing are included.

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Agility as a phenomena

- Agility has become a phenomena that is utilized in
  - Business
  - Product development
  - Software development
  - Etc…

- One must understand the general issues about agility
  - So that its potential can be realized and
  - To find a harmonic position among other paradigms.

- No single pattern of thought is sufficient in a complex world

- Agility is not a silver bullet that solves everything
Example of agile activity: Tarzan
How Tarzan acts 1/2

• The total goal is always known – the mission is to save the princess
• Situation in control all the time
  – Knows the environment
  – Very strong competence
  – Knows his own skills, what he can do
• Movement one step at a time
  – Yet long enough steps – must not fall in the river.
  – Next checkpoint is known. Always a new situation check.
  – Dynamical planning of movement.
  – A mental model of all future events
  – Agility to change the rhythm between planning and action
How Tarzan acts 2/2

• A "risk analysis" is always made for the next step
  – Risks are known and he has an ability control them
  – An understanding of all alternatives
• Good basic tools – a knife
• A supporting team – monkeys, elephant
• Experience
Reflections to agile testing?

- Clear mission for testing
- Understanding the context and the product architecture and functionality
- Consider regression (is the lion still a friend?) and other changes
- Generic, efficient test tools that can be taken to use immediately
- A lean approach – just the necessary tools
- Mental models and procedures for all situations
- Analysis of the situation before taking action
  - Testability, risks, the path to most test benefit
- A team of experts with complementary skills
Applying ready-made agile models

- There are many agile models for many kinds of projects and processes.
- They have the same problems as any other process models developed by individual experts.
  - They don't take into consideration all necessary things – because there hasn't been wide enough expertise participating in the development of the context and at time of development didn't require more from the process.
- More than ideals, the models are philosophical simplifications.
- The models need to be supplemented when taken into use in an organization.
  - One must for example ensure that an agile software development model includes sufficient testing and adequate user studies.
Reflections to agile testing?

• All necessary things must be added to Scrum or any process to make it sufficient to the process requirements

• While agile development is developer driven, testing experts must be strong in bringing in their viewpoints and expertise

• Testing experts understand more about testing than developers and experts of Scrum do!
Agile activity is characterized by for example the following things 1/3

- Time related:
  - Short term goals
  - Rhythm of action
  - Speed of decision making
  - Cyclic processes
  - Recognition of the right moment.

- Context related:
  - Reality wins over theory
  - Living in the moment
  - Living in the context
  - Choosing of methods based on the situation.
Agile action is characterized by for example the following things 2/3

- People related:
  - Belief in people
  - Individual competence
  - Interaction
  - Empowerment of individuals
  - Giving room to act
  - Dynamic roles.
Agile action is characterized by for example the following things 3/3

- Related to the object of action:
  - Shared ownership
  - Customer-orientation.
- Related to the style of acting:
  - Goal-orientation
  - Creativity
  - Planning at the time of doing
  - Incrementality
  - Risk-taking
  - Experimentation.
Agile activity is fast and creative

• One is always psychologically ready for change and change is welcome.

• The activity is guided based on goals without too much trusting previously made long term plans.

• The basic premise is that the world cannot be predicted very far ahead and change is always inevitable. This is pragmatic realism.
Agility and freedom

- The idea of freedom is associated with agility.
- This is partly true, partly a myth.
- For example, agile software development is based on a very strict process.
  - It is agile on the level of decision making and implementation
  - The tightly controlled process keeps the whole disciplined.
  - The main freedom is that the actors have not hung themselves on decisions and thinking that are no longer valid.
Reflections to agile testing?

- The processes that guide the agile activity should be systematic.
- Old process thinking is still valid, it just needs to be updated to support agility:
  - Master test plan and quality assurance plan are still good ideas – as are their old contents.
  - Synchronisation and timing of activities gives new restrictions to freedom.
  - Procedures and guiding principles for agile testing should be developed:
    - Process of agile testing that aims in understanding the system,
    - Agile testing that continues from where systematic testing leaves off.
    - Etc…
Agility and sociality

• It is often thought that agile activity is also very communal or social.

• Many basic elements of agility are found in social action systems (social media, internet communities, social development, Web 2.0).

• Shared characteristics include:
   – Situation awareness
   – Speed of change
   – Emphasis on psychological factors
   – Trust in people and empowerment of others – when people are given room to work, they will do good things.
Reflections to agile testing?

- Team dynamics must be understood in
  - Project team
  - Test team
  - Collaboration

- A service mentality
  - Empowering the developers
  - Egoless testing

- Continuous process development
  - Agile development and testing are new; we must learn about them every day
  - Rhythm of process improvements

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Agility’s relation to reality

• If there is a difference between reality and theory, reality wins
• If there is a difference between plans and reality, reality wins
• The world cannot be predicted far ahead, so it is not worth to try it
• No one thing, its requirements or optimal implementation, is not understood well enough in advance
• Change is inevitable
• When new elements are brought to an old activity, it becomes unpredictable and can only be controlled with agility
• One must all the time be ready to whatever change
• One must all the time be ready to do anything in any way
Reflections to agile testing?

• Trust the system more than the specifications
  – Specifications are full of errors anyway

• See testing as learning experience
  – Spread the learned things to others
  – Not just bug reports, but system understanding
Planning in advance improves agility

• Agility can be greatly improved if one has a selection of ready-made models of action for various situations.

• The planning of these models needs to be very systematic.
  – "What if…" analyses are made for every conceivable situation.
  – Recognising of weak signals of new scenarios is a form of proactive agility

• After the models have been made, one can:
  – With situational sensitivity identify the current conditions
  – Rapidly select a suitable model of action
  – Execute it efficiently – because it has already been thoroughly thought out.
Example: Ferrari's F1 team

- It has been thought that the key to its lightning-fast ability to create changes to its tactics as the race situation changes has been due to the ingenious brain of Ross Brawn.

- Brawn has told that the ability to make changes has largely been based on advance planning

- Analysis and simulation beforehand of situations like:
  - What should we do if Häkkinen runs away at the start?
  - What do we do in case of a safety car?
  - What about rain?
  - What is the effect of the number of pit stops and how large is the effect if the strategy is changed during the race?
Reflections to agile testing?

- Be prepared to system’s changes, in every conceivable scenario
  - Do proper risk analysis
  - Have previously made plans for common situations
    - How to test common features and functions
  - Don’t be disappointed if situations change
    - If you get disappointed, you were not prepared well enough
- Respect strategy
- Maximise utilisation of the best brains in the team
- Key persons must be responsive
  - Clear roles
- Have quality goals (in F1 every small part is mission-critical)
A jazz group was used during the 1990’s as a metaphor for an agile organization. For example, a key issue to Nokia’s success was perceived to be its agile mode of operation, which was compared to how a jazz group works.

This is a shortened translation on Matti Vuori’s original Web article from 2002 (in Finnish)
http://www.kotiposti.net/~xmvuori/kehittaminen/jazz/
Agile organization as a jazz group 2/3

- Main features:
  - Shared goal, vision and understanding of the organization
  - Stabile basic structure
  - Clear skill based roles and competence requirements
  - All members have the ability to act independently when needed (as lead player, as a soloist)
  - The bulk of the work is disciplined group work
  - The team has a clear leader that is responsible for steering of the operations and managerial tasks
  - The team works best in a given context – working with its own style, in a given presentation format
Agile organization as a jazz group 3/3

- The group does not renew continuously but by dismantling the group and founding a new one
- A deep reflective understanding of one’s own doing, own music
- A purposeful assembly – just enough of instrument, not too many nor too few
- The team does not compose but needs a creative person to write music
- Requires also the management above the team to have an ear to this musical style (record company executives)
- Creative.
- Simple.
Reflections to agile testing?

- Have defined expert roles
  - Only experts can tackle new situations fast
- Test planning needs expert vision
- Understand what kind of tests should have priority (solos)
  - Find the right time to each activity
- Give team support to others (including agile regression testing)
- Build shared understanding of the product and activity
- Practice before the show
  - Pilot tests
  - Preparation of test tools
Developing of agility

• The development of agility is organizational development.
• It is essential to develop the whole activity system instead of just choosing some suitable agile process and starting to utilize it.
• Some main elements of development are:
  – (Benefits and commitment – why are we doing this)
  – Identification of the main elements of the activity system.
  – Identification of the barriers to agility – starting with the corporate culture.
  – Identification of conflicts brought by agility and the needs of change in all elements.
  – The change into agility activity often succeeds best in a unit or team which is independent and which has no prior non-agile history.
Elements of developing agility

- Processes
- Information systems
- Communality
- Culture
- Time and rhythm
- Skills
- Leadership and management
- Rules
- Activity
What shall we do in agile way

- Central decisions relate to meta level of activity
- What are the things that will be done in an agile way and what will not?
- How are agile methods complemented with necessary systematic practices?
Balanced agility in an organization

• The big lines – roadmap.
• Long term development of skills
• Strong basic processes that include provisions for choosing practices and tailoring
• Processes have frequent checkpoints
• Procedures for identifying changes in the operational environment
• Comparisons of alternatives
• Trust
• Balance between risk taking and risk control
Reflections to agile testing?

• We must plan for the whole quality assurance system, not just the agile parts of it

• When starting to utilise Scrum or what ever
  – They should be just a framework used to understand essential processes
  – The must be expanded with many other activities and practices, of which many are not agile
  – In many cases systematic pre-planned testing can not be replaced with agile testing, but agile testing can have a role before and after the traditional testing procedures

• Development of mature testing takes time
  – We must always have a balance between traditions and routines and new innovations
  – This is practical business risk management

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Going agile

• The relationship between agile and pre-planned activity is demonstrated by the fact that one cannot turn into being agile in an agile way

• For example, implementing an agile process is a project where among others the following are done:
  – Choosing the process, planning and tailoring it
  – Coaching of all parties
  – Piloting
  – Stabilizing the new process and systematic expansion of its use
  – Continuous improvement

• One cannot go agile if the existing activity is immature
  – The result might be a regression to chaos
  – The activity must first be lifted to some maturity level, where all required elements exist
Personal prerequisites of agility

- Generic skills.
- Personal mental "toolbox"
  - Contains various styles and ways of action, methods and techniques
  - Ready made thinking patterns and action patterns.
- Adaptable character.
- Ability to make rapid planning.
- Ability to make rapid decisions.
- Situational awareness.
- Understanding of the line of business and products.
- Versatile utilization of information sources.
Organizational prerequisites of agility

- Communicative culture.
- Rapid decision making.
- Low bureaucracy.
- Empowering, participating and delegating culture.
- Skills and competences are in order.
- Strong quality culture.
- A working risk management process.
- A shared product understanding.
  - More visibility to the goals of development is needed.
Requirements for processes

• A model of the activities is always available, based on which plans can be changed.
• Everyone has a shared, understandable object of development and a mental model of the project / process.
• A shared planning system in which work can be reallocated at any time.
• Real time information systems – a view to the activity and the results.
• Integration of documentation with the processes and tools – there is not time to create documents afterwards.
• Synchronization of parallel processes.
• Processes that consist of modular, compatible practices or methods.
• Frequent checkpoints to keep up with what's happening.
• Short cycles of implementation and evaluation.
• Emphasis on appropriate phase products instead of polished perfection.