



Scrum at RiIS

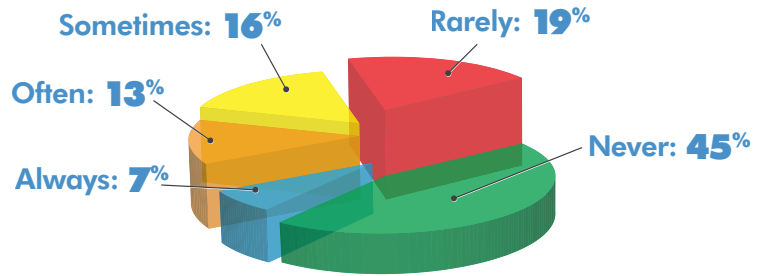


Research Into Internet Systems

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SCRUM AT RIIS

A Standish study found that only 20% of features in a typical system were used often or always and 45% of features were never used at all. The ability to embrace change is critical to reducing waste and allowing organizations to be competitive. This leads many organizations to Agile frameworks such as Scrum.



Features/Functions used in a typical system.



Source: Standish Group

WHAT IS SCRUM?

In the classic sense, Scrum is defined as “an iterative, incremental methodology for project management often seen in agile software development.” Scrum* is based on cross-functional, self-organizing teams that work to deliver production ready features each iteration or time box (called a Sprint).

Example Sprint Timeline

(Assuming a two week Sprint/Iteration)

Week One



Week Two



*Wikipedia

The Scrum Framework supports and embraces the values in the Agile Manifesto:

AGILE MANIFESTO

Individuals & Interactions ✓
 Working Software ✓
 Customer Collaboration ✓
 Respond to Change ✓

Over

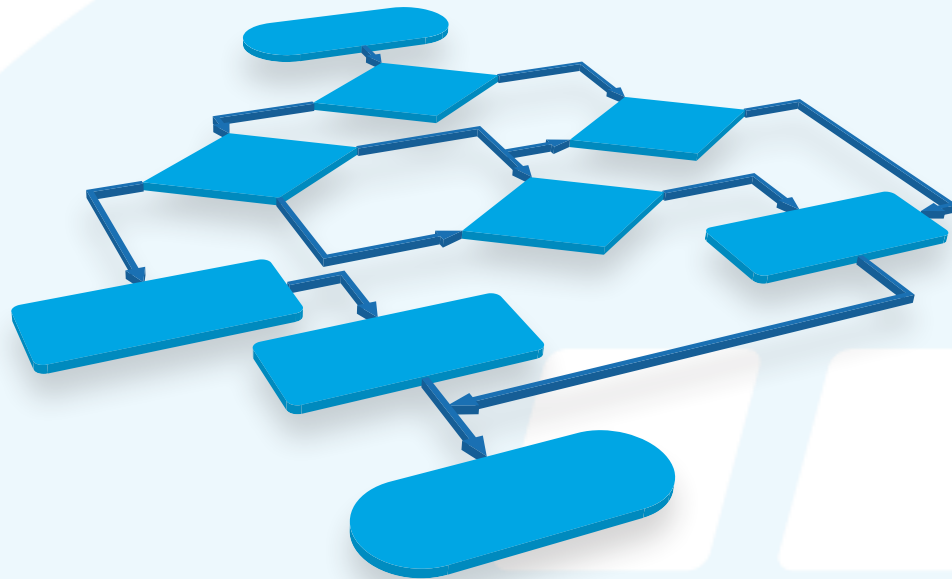
Processes & Tools
 Comprehensive Documentation
 Contract Negotiation
 Following a Plan

That is, while there is value in the items on the right, we value the items on the left more.

WHO ARE WE AND WHAT DO WE DO?

A PRACTICAL APPLICATION OF SCRUM: At RIIS, our goal is to provide business partners a practical way to apply Agile and Scrum to software development. We work with our clients to design an approach that supports the culture, long term goals, and objectives. We use tools and techniques that speed up the development process without re-architecting existing IT departments.

RIIS will work with you to recommend an Iteration/Sprint timeline that provides focus and predictability for those involved in the project to stay connected. It should also accommodate the need to review and adjust to respond to change.



Why use Scrum?

Scrum is an ideal framework for projects in which there is a great deal of unknown or complexity related to the features and/or technology. It is founded on an inspect and adapt cycle which allows teams and business partners to take advantage of the knowledge they gain throughout a project. Scrum facilitates daily interaction between the product owner(s) and the project team so that as users are providing feedback as they're seeing the application evolve. The framework is focused on teamwork, communication, and faster delivery of software.

By using Scrum, organizations have the ability to change priority and features throughout the project. By constantly reprioritizing features based on business value, it ensures the team is delivering the most important features first. Product Owners have the ability to make decisions to add, remove, or change features as the product evolves and understand the impact to the project real time. This provides organizations with a true competitive advantage.

Why not use Scrum?

Scrum is not a fit for all projects. Projects that are predictable, well defined, and not likely to change may not require the collaboration and feedback cycles Scrum offers. However, some practices such as Daily Stand Up could be adopted in order to facilitate better communication and awareness. Scrum requires daily interaction between the Product Owner and Team. If this daily interaction is not possible, Scrum will not succeed because the team will not receive the direction and feedback it needs.

Scrum doesn't mean you have to reinvent your IT processes. It can be adopted with one team or integrated into an entire IT department. The approach depends on many of the factors discussed above.

HOW DOES RIIS USE SCRUM?

Scrum is a simple framework with a goal to deliver functionality that is production ready every Sprint, or Iteration. With that in mind, RIIS will create a process and framework on a client-by-client basis to achieve that goal.



The framework is simple and has only three roles:

- **Product Owner** – Person responsible for prioritization and planning of releases and features for the product development effort
- **ScrumMaster** – Person responsible for facilitating the Scrum process, removing road blocks and impediments, communication, and general project management
- **Team** – Consists of architects, developers, analysts, testers, designers, etc. that have the goal to turn the product backlog into delivered functionality

We use artifacts written in a language and format that everyone can understand:

- **Product Backlog** – prioritized list of features for the product development effort
- **Sprint Backlog** – represents the subset of features the team has committed to in a sprint
- **User Story** – Artifact produced in order to communicate requested features. It contains a title, user statement, and acceptance criteria. The user statement is described as such: “As a (user role), I want (feature), so that (benefit)”. The acceptance criteria are expectations and characteristics that will determine whether the feature is complete or “done”.

At the beginning of a project, we often begin with a **Sprint 0** (zero) to set up basic infrastructure and develop a Product Backlog to be sized. To begin the first sprint, there should be a fairly stocked Product Backlog with enough user stories at least for the first sprint. For features that are epic or unable to be sized, they should be broken into smaller stories or a “technical spike” story can be written to time box proving out some functionality that will clarify the requirement.

Each sprint the team estimates/sizes, selects features to complete, demonstrates those features, and conducts a retrospective or lessons learned about what went well and could use improvement in the next sprint. At the end of each sprint, we deliver features that are candidates for release. This allows our clients to begin using and reaping benefit from the development earlier.

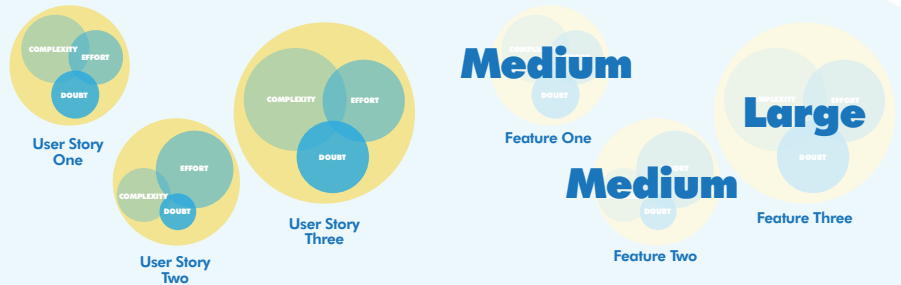
WHAT ARE THE ELEMENTS OF A SCRUM PROJECT?

Sizing

This is the first meeting to occur within a sprint. The objective is to place a relative size on items represented on the Backlog (user stories). The team will review the items and place a rough order of magnitude on the items to assist the Product Owner in his/her prioritization. Items can be sized in many different units such as t-shirt sizes or story points. The goal is to use whatever unit is chosen to size the features based on their perceived complexity, effort, and doubt using other features as a reference.

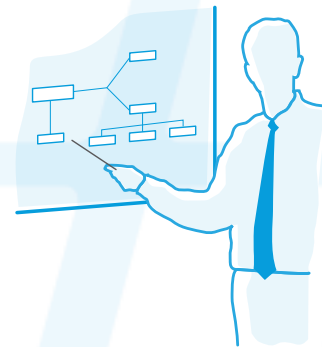
Sizing	
Goal	To size the Product Backlog features to provide a guide for planning.
When	Beginning of each sprint.
Duration	Depends on the amount of user story elaboration (Typically 2-4 hours per sprint).
Participants	ScrumMaster, the Team, and Product Owner (optional).

Project User Stories



Sprint Planning Meeting

The Planning meeting occurs at the beginning of each sprint. The objective is to select the functionality from the Product Backlog that will be worked on in the sprint. It is time boxed and has two parts. The first consists of the Product Owner presenting the team with the goal and priority items for the upcoming sprint. Participants in this meeting may make recommendations, however the final decision of which features will be included in the sprint is made by the Product Owner. For those items selected, acceptance and "done" criteria should be discussed and documented on the user story. Based on the given priority, the team makes a commitment to deliver selected functionality. The second part of the meeting is for the team to then determine how the commitment will be met and what activities and/or tasks need to be completed to meet the goal. The Product Owner should be available to the team during this period of time but is not required. The tasks and estimates resulting from this second part of planning become the sprint Backlog. This sprint Backlog may not contain all of the tasks needed to accomplish the sprint goal; however it should be enough for the team to start the sprint with additional tasks being added shortly thereafter.



Sprint Planning Meeting	
Goal	To select and agree upon acceptance criteria for the features that will be worked on during the sprint.
When	Beginning of each sprint.
Duration	Depends on the length of sprint and amount of user story elaboration needed (Typically 4-8 hours per sprint).
Participants	Part i: ScrumMaster, Product Owner, and the Team. Part ii: ScrumMaster, Team.

Daily Stand Up

This meeting occurs daily within a sprint. The goal is to review the team's progress as well as identify any impediments or opportunities to be more efficient. Each participant takes a turn answering questions related to their status. The three questions are:

1. **What have you worked on since the last stand up?**
2. **What do you plan on working on until the next stand up?**
3. **What impedes you from performing your work as effectively as possible?**

The stand-up should occur in a consistent place each day and attendance is mandatory. When team members are remote, tools such as Skype can be used to facilitate the meeting and conversation. If a participant is unable to attend, another team member can also speak on their behalf. It is important to be brief and focus on answering the three questions and moving on. The ScrumMaster is responsible for facilitating the meeting and keeping it focused. If there is a topic that members wish to have further conversation about, a request can be made to have further conversation or set up a meeting after the stand-up.



Daily Stand Up

Goal	To select and agree upon acceptance criteria for the features that will be worked on during the sprint.
When	Daily throughout the sprint (Typically first thing in the morning).
Duration	Time boxed to 15 minutes.
Participants	ScrumMaster, Product Owner, and the Team.

Sprint Review

This meeting occurs at the end of each sprint. The objective is to demonstrate all the functionality completed within the sprint. Functionality that is not completed based on the "done" and acceptance criteria will not be shown and will need to be placed on the backlog to be sized and planned. For each item completed, a team member will read the user story as well as the "done" criteria and demonstrate it. The features should be demonstrated in the environment closest to production. The decision will then be made by the Product Owner whether the user story can be considered "done" and is accepted. If so, the feature is then eligible for release and is production ready. Any changes and/or features requested as a result of this review meeting should be captured as user stories, sized, and prioritized by the Product Owner.

Sprint Review

Goal	To review the features completed during the sprint.
When	End of the sprint (Before the Retrospective).
Duration	Depends on the length of sprint and amount of functionality completed (Typically 2-4 hours per sprint).
Participants	ScrumMaster, Product Owner, Stakeholders, the Team.

Sprint Retrospective

This is the last meeting within a sprint. The objective is to review what went well and opportunities for improvement for the upcoming sprints. The two questions that are answered are:

1. **What went well during the last sprint?**
2. **What could be improved in the next sprint?**

The ScrumMaster is there strictly to facilitate and document the answers provided by the team; not to provide the answers. The team should prioritize the list in the order they'd like to discuss the opportunities for improvement. Actionable items should be added to the backlog for visibility and prioritization.

Sprint Retrospective

Goal	To review what worked well in the sprint and could be improved with the process going forward.
When	End of the sprint.
Duration	Depends on the length of the sprint (Typically 1-2 hours per sprint).
Participants	ScrumMaster, the Team, and Product Owner (optional).

During the Sprint

Sprints are time boxed periods in which the team is working to deliver the features committed to during sprint planning. The duration varies from project to project and depends on the level of elaboration available for the user stories and amount of unknowns and risks associated with the project.

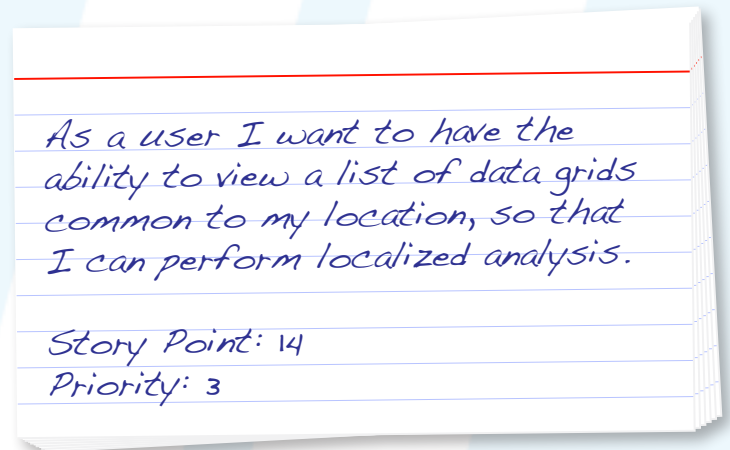
The Product Owner should be available to the team to answer questions and make decisions as needed. Once features are committed to for the sprint, no additional features can be added unless the team requests them due to having capacity to do so. If it is discovered that the commitment is not realistic, the team can negotiate with the Product Owner to remove functionality, or a new Planning meeting can be held and a new commitment made.

During the Sprint	
Goal	To complete the features committed to by the team during the sprint planning meeting.
When	Throughout sprint.
Duration	Time boxed (Typically 2-4 weeks).
Participants	ScrumMaster, Product Owner, and the Team.

User Story Workshops

This may be a regularly scheduled meeting or ad hoc. The objective is to create user stories for the highest priority items before sizing and planning. A user story contains a title, user statement, and acceptance criteria. The user statement is described as such: "As a (user role), I want (feature), so that (benefit)". The acceptance criteria are expectations and characteristics that will determine whether the feature is complete or "done".

User Story Workshops	
Goal	To elaborate user stories in order for them to be sized and eligible for sprint planning.
When	End of a sprint.
Duration	Depends on the length of sprint (Typically 1-2 hours per sprint).
Participants	ScrumMaster, the Team (some members may be optional), and Product Owner.



Release Planning

This may be a regularly scheduled meeting or ad hoc. The objective is to create a release plan based on the ranked features. The output is an updated Product Backlog with release points and themes identified.

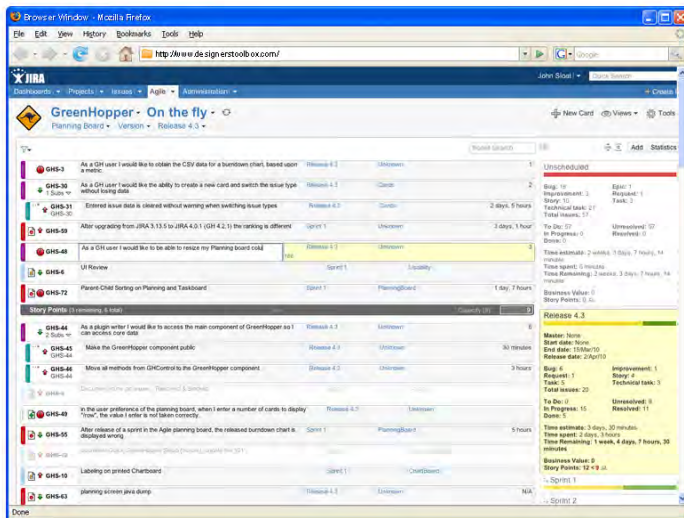
Release Planning	
Goal	To plan releases and update the Product Backlog as needed.
When	Any time during a sprint.
Duration	Depends on the length of the project (Typically 1-2 hours per sprint).
Participants	ScrumMaster and Product Owner.

WHAT TOOLS ARE AVAILABLE?

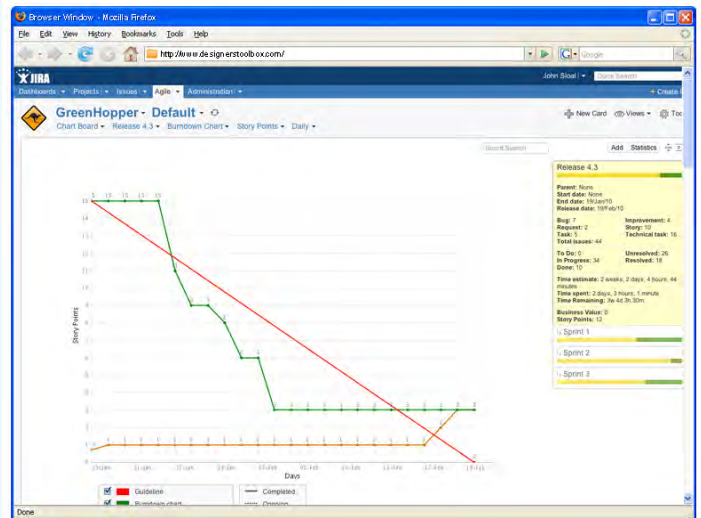
Scrum tool selection depends on the preferences and needs of the organization. In the simplest sense, Scrum only requires an Excel backlog, a wall, and 'Post It' notes. However, for organizations requiring a more high tech solution to provide additional visibility and tracking, there are web based solutions by companies such as JIRA, VersionOne, and Rally Software.

Below are some screen shots from the JIRA GreenHopper solution.

GreenHopper Planning Board



GreenHopper Burn Down Chart (by story points)



CONCLUSION

The ability to embrace change is critical to reducing waste and allowing organizations to be competitive. This leads many organizations to Scrum.

At RIIS, we work with our clients in order to implement a Scrum approach that supports their goals, objectives, and culture.

CONTACT RIIS AT: INFO@RIIS.COM OR 248.351.1200, OR FOR MORE INFORMATION VISIT: WWW.RIIS.COM.