Scrum Methodology Agile Tool

Dr. A. Satyanarayana

Abstract: The system can graduate to an internet application when published on a web server. SMAT (ASCRUM methodology Agile Tool) is a web based application over intranet for an organization, which is meant for storage and retrieval of data related to various Users, Teams and SCRUM related information like Backlog_ID, Various user Stories, Completed user stories, Ongoing user stories, Blocked Ongoing user stories, Daily meetings, Estimated time and Burn- Down Chart, etc. Maintain the detailed information like “Product Backlog, Sprint Backlog, Daily SCRUM Meeting, Sprint Review, Sprint Retrospective, Sprint Planning (Optional in tool, but mandatory in SCRUM). All the information will be maintained and monitor from the central location (product owner). All the information can be managed online over intranet throughout the project. The proposed system is to automate & simplify the activities in the present system. An intranet information system published to windows servers, capable of access on any machine with a browser connected to the organization LANSMAT can be divided broadly into Four modules which are described below: Login Module, Admin (Product Owner), Scrum Master and Team.

Keywords: Scrum, backlog ID, Sprint, Scrum master, burn-down chart, Sprint planning, ion system

INTRODUCTION

SMAT (ASCRUM methodology Agile Tool) is a web based application over intranet for an organization, which is meant for storage and retrieval of data related to various Users, Teams and SCRUM related information like Backlog_ID, Various user Stories, Completed user stories, Ongoing user stories, Blocked Ongoing user stories, Daily meetings, Estimated time and Burn- Down Chart, etc. Maintain the detailed information like “Product Backlog, Sprint Backlog, Daily SCRUM Meeting, Sprint Review, Sprint Retrospective, Sprint Planning (Optional in tool, but mandatory in SCRUM). All the information will be maintained and monitor from the central location (product owner). All the information can be managed online over intranet throughout the project. SMAT can be divided broadly into Four modules which are described below: Login Module, Admin (Product Owner), Scrum Master and Team.

LITERATURE SURVEY

Existing System:
At present everything related to internal assessment of a project is done manually and involves a lot of paper work which include Sprint backlog planning and Task - Board planning etc. This multitudes to each sprint conducted in project duration. The result is hectic work to the employees involved and is very prone to mistakes. Product backlogs are very rarely available to the team.

Disadvantages of the Existing System:
1. Planning and organizing the project backlogs will be difficult for scrum master, which leads to the lack of project domain and product high maintenance.
2. Tracking of frequent changes and product delivery of the finished product becomes difficult.
3. The daily Scrum meetings and reviews require considerable time and resources.

Proposed System:
The proposed system is to automate & simplify the activities in the present system. An intranet information system published to windows servers, capable of access on any machine with a browser connected to the organization LAN. The system can graduate to an
inter net applicat ion when published on a web server. The ASMT is used such t hat t he product owner can just enter t he backlog it ems into online for ms which direct ly go into t he database. The database is mapped t o each backlog it em assigned to a particular t eam. This data can be accessed and supervised by t he in- charge. The emplo yees get t he facilit y t o access and view t heir project details at any t ime. Also t he previous sprint results are stored in t he database which can be viewed to assess t he past performance of t he t eams. As a result of t his, changes can be made to improve t he t eam per formance of t he project for better qualit y and maintenance. This int ranet software minimizes t he use of paperwork and saves t ime of t he t eam.

Advantages of the Proposed System:

1. Automate a ll t he present system activit ies in t he t eam.
2. Frequent changes are available t ime to t ime, which a llows taking decisio n on backlog it em.
3. Backlog it ems which entered by product owner direct ly go into the database.
4. This data can be accessed and supervised by t he in-charge (product owner).
5. The t eam gets t he facilit y t o access and view t heir sprint backlog at any point of t ime without moving (no need to go to Task- Board or scrum master).

6. The previous sprint results are stored in t he database which can be viewed to assess the past perfor mance of t he t eams and aIso can t rack t he backlog it ems which are done within t he t eam.
7. It minimizes t he use of paperwork and saves greener y as organizat ion environment policy.

FEASIBILITY STUDY:
An important outcome of t he preliminar y invest igat ion is t he determinat ion, if t he system being developed is feasible. It also invo lves t he analysis o f a proble m to determine if it can be so lved effect ively. The operational (will it work ), economical (costs and benefits ), and t echnical (can it be built ) aspects are part of t he study. Results o f t he study deter mine whether t he so lut ion should be implemented. This sect ion contains a ll t he software requirements at a level o f detail sufficient to enable designers to design a system t o sat isfy t hose requirements, and t esters t o t est t hat t he system sat isf i es t hose requirements. Throughout t his sect ion, each stated requirement should be externally perceivable by users, operators, or other external systems. These requirements should include at a minimum a descr ipt ion of ever y input (st imulus) into t he system, ever y output (response) from t he system and a ll funct ions per formed by t he system in response to an input or in support of an output. As t his is often t he largest and most important part of t he SRS, t he fo llo wing principles apply:

a) Specific requirements should be stated with all t he character ist ics of a good SRS
   • correct
   • unambiguous
   • complete
   • consistent (should be same throughout t he SRS)
   • ranked for importance and/or stabilit y (Set priorities)
   • ver if iable (Give suitable references)
   • mod if iable (But with effect ive control)
   • Traceable. (Ident ify each requirement with it s ID)

1. Specific requirements should be cross-referenced t o earlier documents t hat relate.
2. All require ments should be uniquely identifiable.
3. Careful attention should be given to organizing t he requirem ents to maximize readability.
SPECIFICATIONS FILE FOR “LOGIN” USECASE

Primary Actors: Users (Admin, PO, SM and Team)

Precondition: The User must be registered.

Main Flow:
- Enter the Login ID.
- Enter the Password.
- Submit. (E1)

Alternate Flow:
(E1): Invalid Login ID (or) Password.

Post Condition:
Once the login is successful, the user is granted permission to enter the system, and able to do the other activities what he/ her wants.

SPECIFICATIONS FILE FOR “REGISTRATION” USECASE

Primary Actor: Admin. Precondition: NIL.

Main Flow:
- Enter all the Information in the specified form. (E1)
- Submit the form. (E1)

Alternate Flow:
(E1): All the mandatory fields are not entered.

Post Condition:
After the above activity is completed successfully, the information about the user put on the system. And provide the Login facilities.

- A Email / SMS confirmation is sent to the added user.
- By default, the user is given the Team role.

SPECIFICATION FILE FOR “Product Backlog" USECASE Primary Actor: Product Owner

Precondition: The user must be logged into the system

Main Flow:
Select the type of activity the user has to perform
- Add a New Backlog Item
- Update or Drop the Backlog Item
- Put on hold for decision making Backlog Items

Post Condition:
After successful completion of the above activity the user goes for the next step according to his selection.

After successful completion of the above activities the changes are saved to the database.

Secondary Actor: SM / TM
Precondition: The user must be a logged into the system as SM or TM

Main Flow:
Select the type of activity the user has to perform
- View the Backlog Item details

SPECIFICATIONS FILE FOR “Sprint Backlog” USECASE Primary Actor: Scrum Master
Precondition: The user must be a logged into the system

Main Flow:
Select the type of activity the user has to perform
- Add a New Sprint Backlog Item if taken in between the sprint.
- Drop the Backlog Item
- Put on hold for decision making Backlog Items

Post Condition:
After successful completion of the above activity the user goes for the next step according to his selection.

Use case diagram
ACTIVITY DIAGRAMS
Screen Shots
Welcome Page:

Display useful information and links to navigate throughout the system
- Login
- Contact Us

Login Page:
Login details are entered and on successful login user is redirected to his role specific actions.
Display the whole product Backlog Items.
Software and Hardware Requirements
Software Requirements
- .NET Framework 3.5 onwards
- Visual Studio 2008
- SQL Server 2005
- Operating System Windows Server
- IIS 5.1 Onwards
- Internet Explorer or any other compatible browser

Hardware Requirements
- Pentium processor IV (with 2.4 GHZ)
- RAM 1 GB or more
- Hard Disk 80 GB
- Internet leased line if hosted as an Internet Application
- Or can be hosted on any share hosting as little as Rs. 500 a month

CONCLUSION
- Will automate the whole AGILE process. Access information at your finger tips. Generation of Reports.

REFERENCES:
[1] The Unified Software Development Process By IVAR JACOBSON, GRADY BOOCHE and JAMES RUMBAUGH.