Agile Scrum Methodology Tool (ASMT)

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Introduction

ASMT (Agile SCRUM Methodology 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.

ASMT 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 multiplies 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 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

internet application when published on a web server.

The ASMT is used such that the product owner can just enter the backlog items into online forms which directly go into the database. The database is mapped to each backlog item assigned to a particular team. This data can be accessed and supervised by the in-charge. The employees get the facility to access and view their project details at any time. Also the previous sprint results are stored in the database which can be viewed to assess the past performance of the teams. As a result of this, changes can be made to improve the team performance of the project for better quality and maintenance. This intranet software minimizes the use of paperwork and saves time of the team.

Advantages of the Proposed System:

1. Automate all the present system activities in the team.
2. Frequent changes are available time to time, which allows taking decision on backlog item.
3. Backlog items which entered by product owner directly go into database.
4. This data can be accessed and supervised by the in-charge (product owner).
5. The team gets the facility to access and view their sprint backlogs at any point of time without moving (no need to go to Task-Board or scrum master).

6. The previous sprint results are stored in the database which can be viewed to assess the past performance of the teams and also can track the backlog items which are done within the team.
7. It minimizes the use of paperwork and saves greenery as organization environment policy.

FEASIBILITY STUDY:
An important outcome of the preliminary investigation is the determination, if the system being developed is feasible. It also involves the analysis of a problem to determine if it can be solved effectively. The operational (will it work), economical (costs and benefits), and technical (can it be built) aspects are part of the study. Results of the study determine whether the solution should be implemented.

This section contains all the software requirements at a level of detail sufficient to enable designers to design a system to satisfy those requirements, and testers to test that the system satisfies those requirements. Throughout this section, each stated requirement should be externally perceivable by users, operators, or other external systems. These requirements should include at a minimum a description of every input (stimulus) into the system, every output (response) from the system and all functions performed by the system in response to an input or in support of an output. As this is often the largest and most

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important part of the SRS, the following principles apply:

a) Specific requirements should be stated with all the characteristics of a good SRS

- correct
- unambiguous
- complete
- consistent (should be same throughout the SRS)
- ranked for importance and/or stability (Set priorities)
- verifiable (Give suitable references)
- modifiable (But with effective control)
- Traceable. (Identify each requirement with its ID)

1. Specific requirements should be cross-referenced to earlier documents that relate.
2. All requirements should be uniquely identifiable.
3. Careful attention should be given to organizing the requirements 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 in 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 successful the information about 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

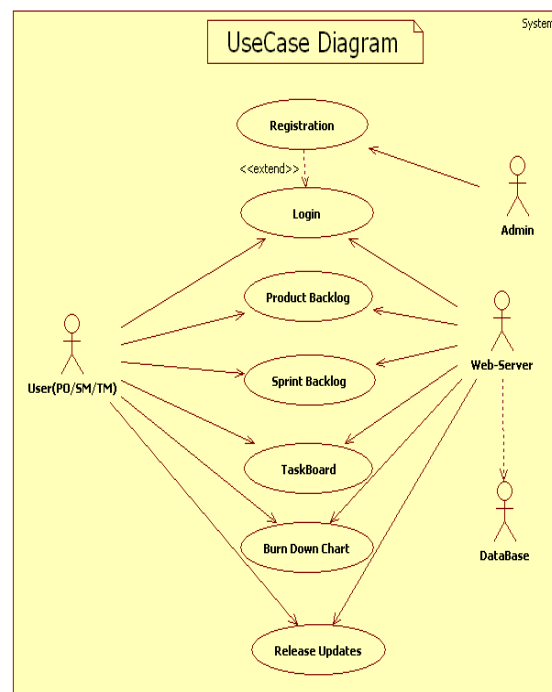Precondition: The user must be a logged into the system

Main Flow:
Select the type of activity the user has to perform
- Add a New Backlog Item

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- Update or Drop the Backlog Item
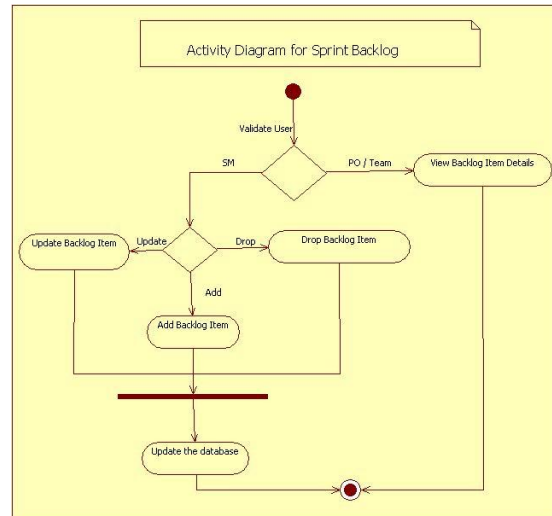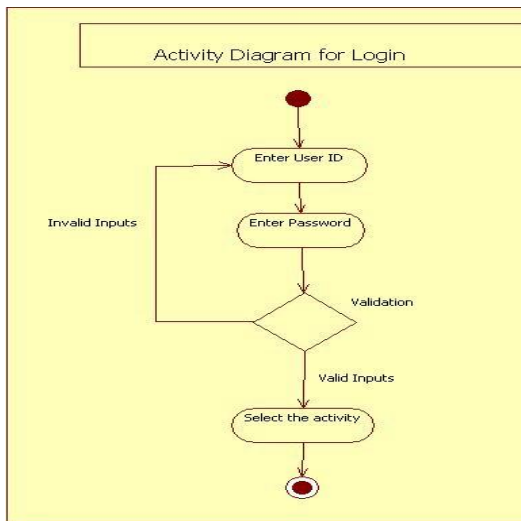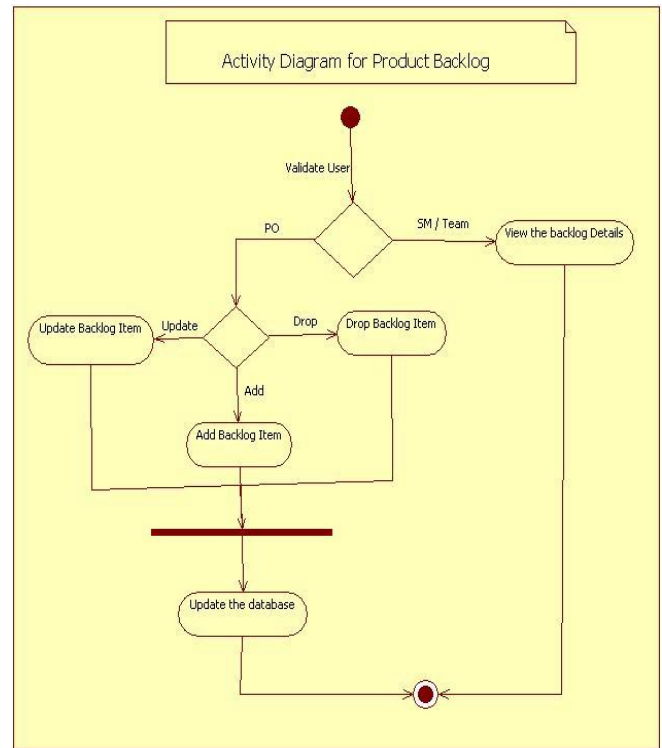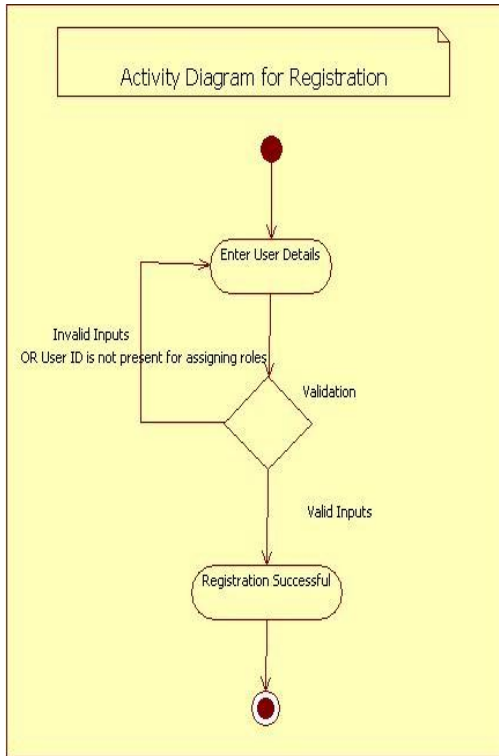- Put on hold for decision making Backlog Items

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

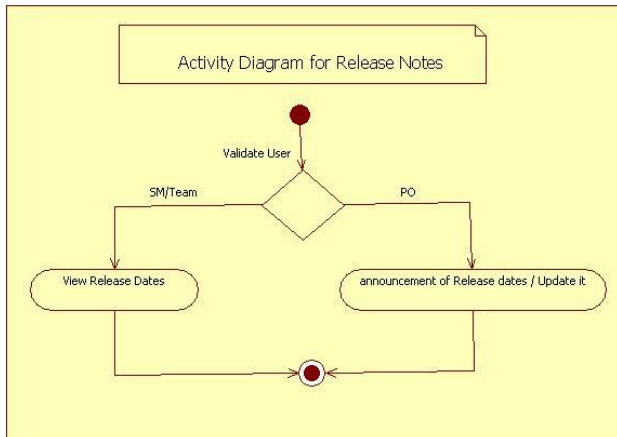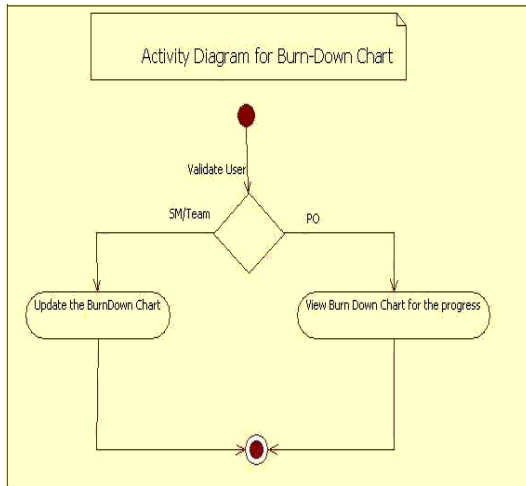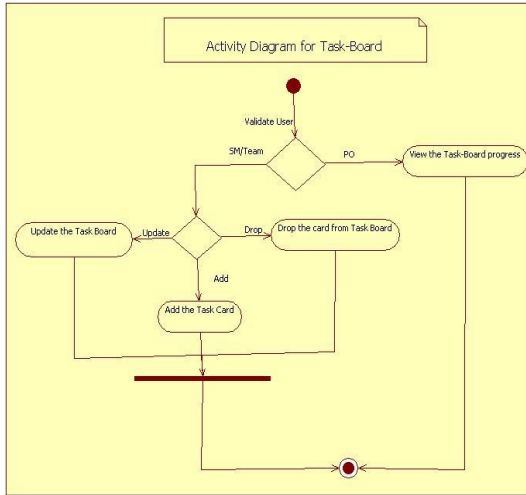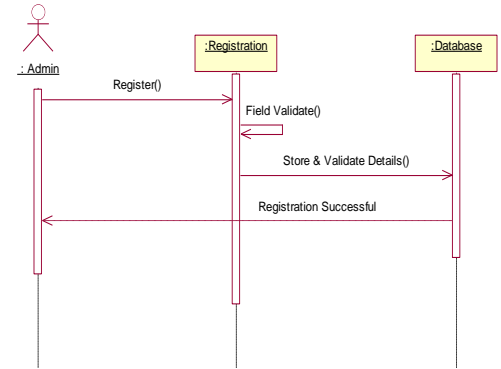After successful completion of the above activities the changes are saved to the database.

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

- Performs the sprint planning and retrospective meetings
- Provide the resources for the team if require

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

Use case diagram

ACTIVITY DIAGRAMS

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Activity Diagram for Task-Board

Activity Diagram for Burn-Down Chart

Activity Diagram for Release Notes

SEQUENCE & COLLABORATION DIAGRAMS

Sequence Diagram: Successfull Registration

Collaboration Diagram: Successfull Registration
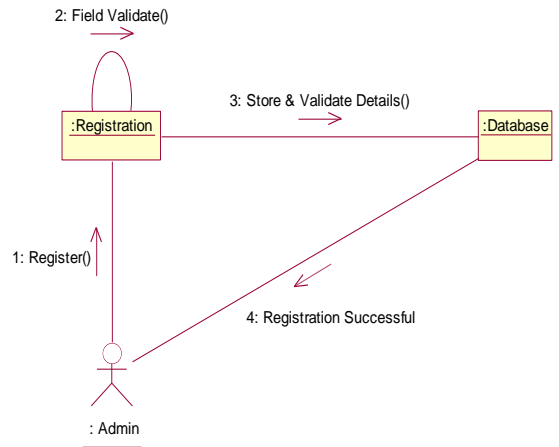
Sequence Diagram: Unsuccessfull Registration
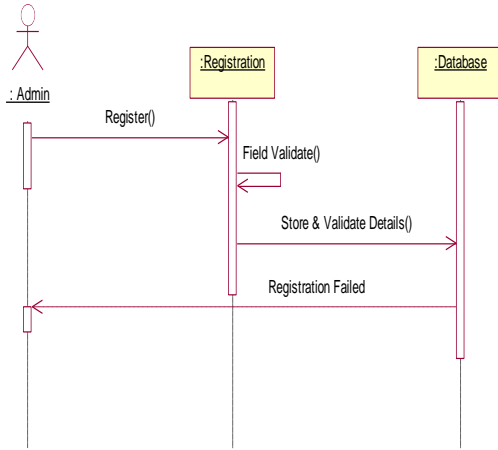
Screen Shots

Welcome Page:
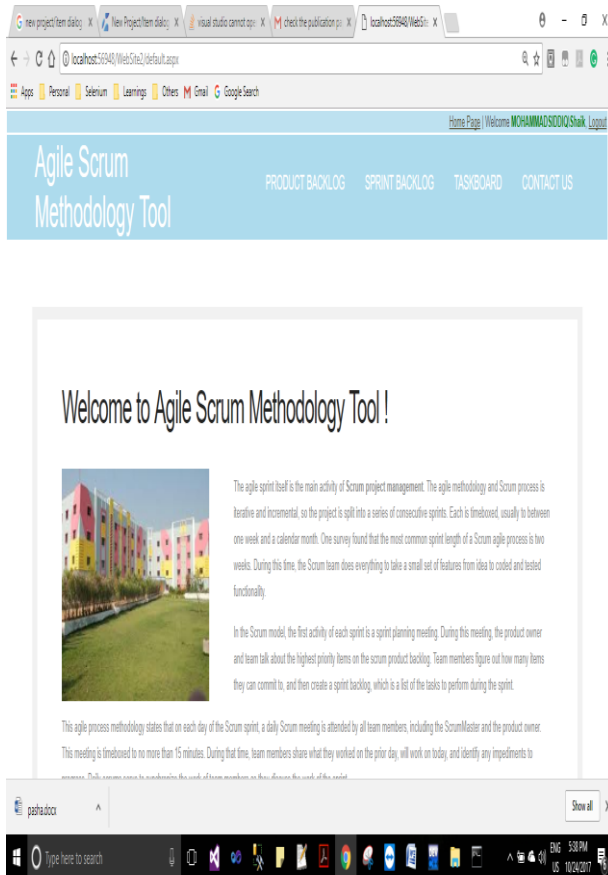
Display useful information and links to navigate throughout the system

- Login
- Contact Us

Login Page:
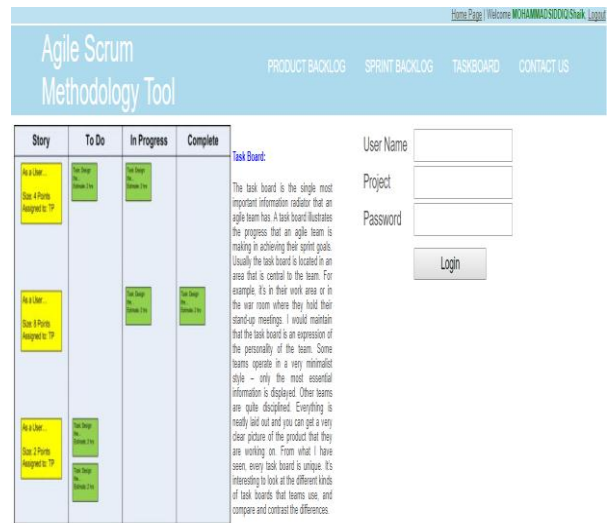
Login details are entered and on successful login user in redirected to his role specific actions.

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 2.4GHZ)
- RAM 1GB or more
- Hard Disk 80GB
- 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.

- Modernization

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