School of Information Technology and Engineering

Winter Semester 24-25

DIGITAL ASSIGNMENT – I

COURSE   : AGILE DEVELOPMENT PROCESS

COURSE CODE   : SWE2029

SLOT   : G1+TG1

FACULTY   : Dr. PRABADEVI . B

1)TEAM MEMBERS:

SWATHI . S – 22MIS0060

SARAN.T.S – 22MIS0069

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2)Do the Pareto Question: The following table list the problems reported by the customer on using web and mobile banking software. Apply pareto principle to identify the potential causes for these problems. [Note: Make use of 5—Why to identify the root cause of the problem].

S.No	List of Problems	Customers Report count
1.	It is a long time to load the login page once the login button is clicked	20
2.	After Enter the username, password and captcha, the loading of the portal is delayed for more than 10 seconds	35
3.	Once the transaction page is clicked for transferring the amount to other bank beneficiaries, already added beneficiaries are not listed	25
4.	While transferring the amount to a new beneficiary without a lock-in period (approval time), the amount was transferred, but same wasn't reported	7
5.	After completing the transaction, the report generation did not work and did not print anything even though the print button was pressed.	10
6.	When user tried to login to the website from two different browsers at the same time, error was not reported (Dual login permitted)	15
7.	When user tried to pay bill using internet banking web portal, the amount deducted wasn't notified to the user through SMS3	35
8.	The user tried adding a new beneficiary for more than 3 times but the beneficiary wasn't added as well no error message was prompted	4
9.	When the customer updated the KYC via mobile banking software, it was reflected in the mobile app but not updated in the web portal	25
10.	The user got a message "credit limit threshold exceeded for your account for the financial year" for every credit after a certain period	25

STEP-1) IDENTIFY FREQUENCY OF ISSUES:

S.NO	PROBLEM DESCRIPTION	CUSTOMER REPORT COUNT
1	Login page takes a long time to load	20
2	Portal loading delay after entering credentials	35
3	Beneficiaries not listed for transfer	25
4	Amount transferred but not reported	7
5	Report generation issue after transaction	10
6	Dual login error not reported	15
7	No SMS notification for bill payments	35
8	New beneficiary not added or no error shown	4
9	KYC updated in mobile app but not on web	25
10	Credit limit threshold message appearing repeatedly	25

STEP-2) SORT ISSUES BY FREQUENCY:FIND CUMULATIVE %:

RANK	PROBLEM DESCRIPTION	CUSTOMER REPORT COUNT	CUMULATIVE %
1	Portal loading delay after entering credentials	35	17.41%
2	No SMS notification for bill payments	35	34.83%
3	Beneficiaries not listed for transfer	25	47.27%
4	KYC updated in mobile app but not on web	25	59.71%
5	Credit limit threshold message appearing repeatedly	25	72.51%
6	Login page takes a long time to load	20	82.10%
7	Dual login error not reported	15	89.56%
8	Report generation issue after transaction	10	94.53%
9	Amount transferred but not reported	7	98.01%
10	New beneficiary not added or no error shown	4	100%
	TOTAL	**201**	

STEP 3) IDENTIFY THE MAJOR ISSUES:

Applying the Pareto Principle (80/20 Rule), we see that the top 5 issues contribute to about 75% of the total problems. Addressing these first will resolve the majority of customer complaints.

STEP 4) FINDING ROOT CAUSES(5-WHY ANALYSIS) AND SOLUTIONS:

Issue 1: Portal loading delay after entering credentials (35 reports)

- ❖ **Why?** Server response time is slow.
- ❖ **Why?** High database load or inefficient query execution.
- ❖ **Why?** Poor optimization of login authentication process.
- ❖ **Why?** Too many verification steps without caching mechanisms.
- ❖ **Why?** Lack of proper performance tuning and load balancing.

Solution: Optimize database queries, use caching, improve server performance, and implement load balancing.

Issue 2: No SMS notification for bill payments (35 reports)

- ❖ **Why?** SMS notification system is not triggered.
- ❖ **Why?** Notification API might have failed.
- ❖ **Why?** Delay or failure in integration with third-party SMS service.
- ❖ **Why?** No retry mechanism in case of failure.
- ❖ **Why?** Lack of real-time monitoring and alert system.

Solution: Implement retry mechanisms, ensure stable SMS API integration, and use monitoring tools for failures.

Issue 3: Beneficiaries not listed for transfer (25 reports)

- ❖ **Why?** Database query is not fetching the latest beneficiary data.
- ❖ **Why?** Data synchronization issue between backend and frontend.
- ❖ **Why?** Caching issues or delays in updates.
- ❖ **Why?** Poor handling of session data.
- ❖ **Why?** Inconsistent API responses.

Solution: Ensure real-time database updates, fix API data consistency, and implement proper session handling.

Issue 4: KYC updated in mobile app but not on web (25 reports)

- ❖ **Why?** Data synchronization issue between mobile app and web portal.
- ❖ **Why?** Separate databases are used without proper syncing.
- ❖ **Why?** Background update jobs fail without alerts.
- ❖ **Why?** Inconsistent API calls between platforms.
- ❖ **Why?** No automated reconciliation mechanism.

Solution: Implement database synchronization, real-time API updates, and reconciliation mechanisms.

Issue 5: Credit limit threshold message appearing repeatedly (25 reports)

- ❖ **Why?** Incorrect logic in credit threshold checking.
- ❖ **Why?** System doesn't recognize a cleared transaction.
- ❖ **Why?** No proper state update in the database.
- ❖ **Why?** Notifications are sent without checking the last update time.
- ❖ **Why?** Lack of validation before triggering messages.

Solution: Update the credit limit check logic, validate before sending messages, and optimize database updates.

Conclusion:

By resolving these top 5 issues, around 75% of customer complaints can be addressed. This will significantly improve user experience and reduce overall system problems.

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3. List the various agile project management tools and chose one for the project

VARIOUS AGILE PROJECT MANAGEMENT TOOLS:

1. **Jira** – Popular tool for Scrum and Kanban boards, backlog management, sprint planning, and issue tracking.

2. **Trello** – Simple, visual tool based on Kanban boards, suitable for small teams and task management.

3. **Asana** – User-friendly tool for task tracking, workflow automation, and collaboration.

4. **Monday.com** – Visual project management with timeline, Kanban, and workload views.

5. **ClickUp** – All-in-one tool for project management, docs, goal tracking, and time tracking.

6. **VersionOne (now Digital.ai Agility)** – Enterprise Agile tool supporting Scrum, Kanban, SAFe.

7. **Targetprocess** – Agile tool for visual project management and enterprise scaling.

8. **Rally Software (formerly CA Agile Central)** – Tool for scaling Agile practices in large teams.

9. **Pivotal Tracker** – Agile-focused tool for story-based project planning.

10. **Zoho Sprints** – Agile tool with backlogs, sprints, epics, and timesheets.

Chosen Agile Project Management Tool for Sample Project

Sample Project Chosen: "Hospital Management System"

Chosen Tool: Jira

Justification for Choosing Jira:

- **Ideal for managing complex projects** like Hospital Management System involving multiple user stories (patient registration, doctor scheduling, billing, inventory, etc.).

- **User stories and epics** creation to divide work into manageable parts.

- **Sprint planning and backlog management** to focus on iterative development.

- **Kanban and Scrum boards** for tracking real-time progress.

- **Issue and bug tracking** during development and testing phases.

- **Reports and Burndown charts** for Agile metrics and team performance analysis.

- Integration with **GitHub, Bitbucket, Confluence** for complete software development lifecycle (SDLC) tracking.

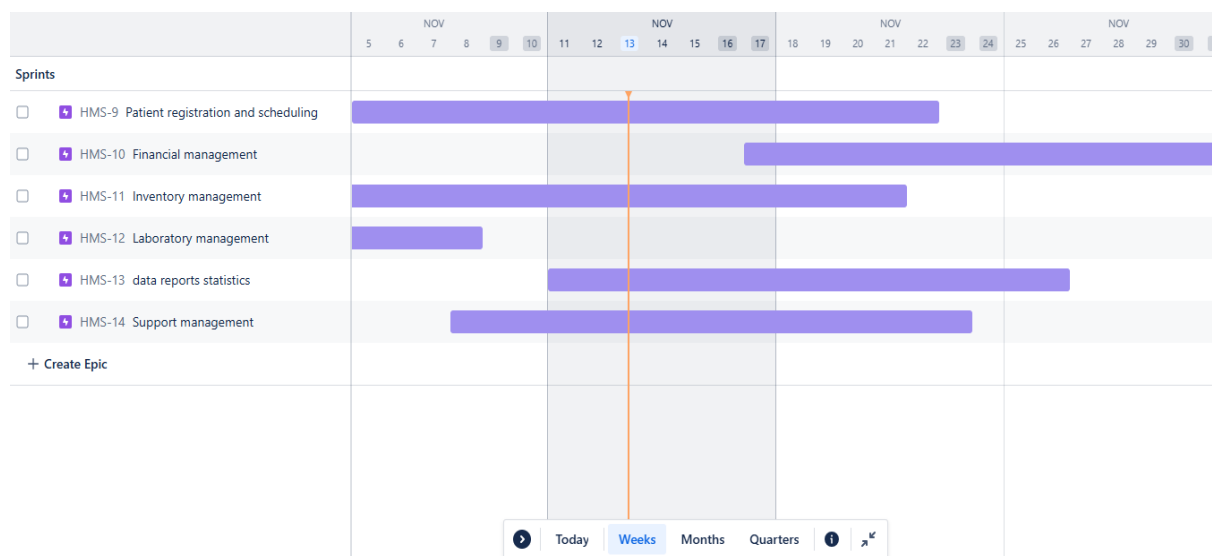- **Used by top organizations** — gives real-world exposure to the team.

WEBSITE LINK OF THE TOOL:

https://www.atlassian.com/software/jira?campaign=18442427757&adgroup=143485223724&targetid=kwd-11723159468&matchtype=e&network=g&device=c&device_model=&creative=656562805597&keyword=jira%20software&placement=&target=&ds_eid=700000001558501&ds_e1=GOOGLE&gad_source=1&gclid=EAIaIQobChMI487hqtKGjAMVy6ZmAh1KQzvGEAAYASAAEgLQZ_D_BwE

https://vitstudent-team-ck8nk2dd.atlassian.net/jira/software/projects/SCRUM/boards/1/timeline

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4. ROADMAP PLANNING FOR HMS USING JIRA TOOL:
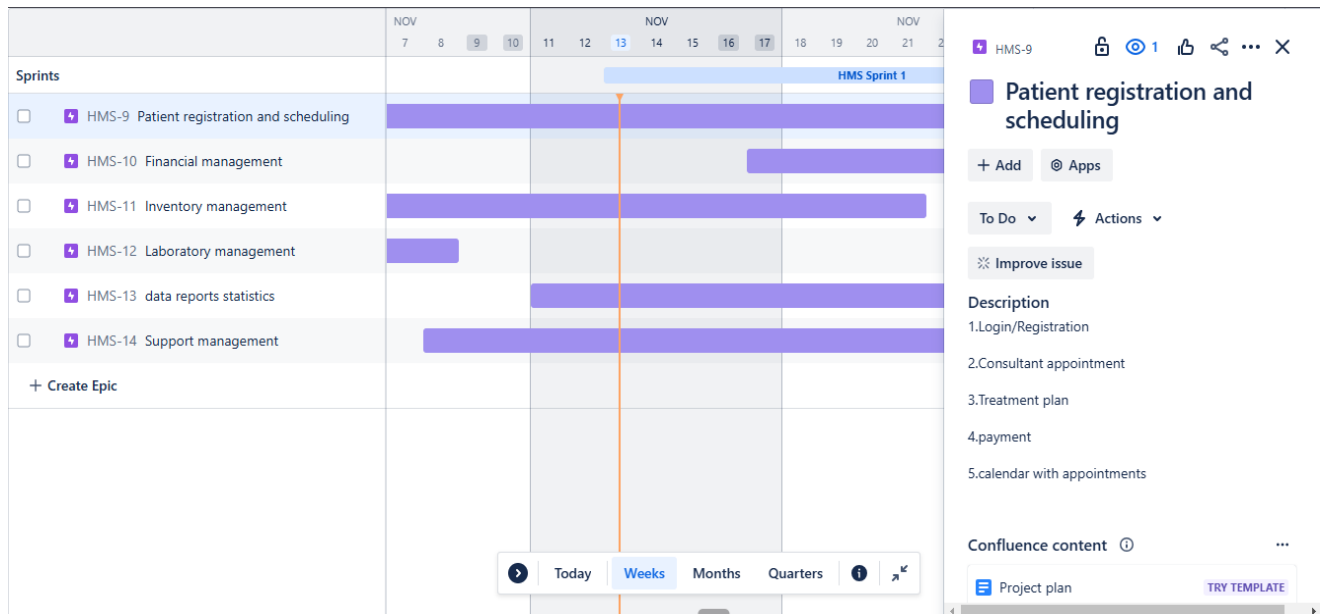
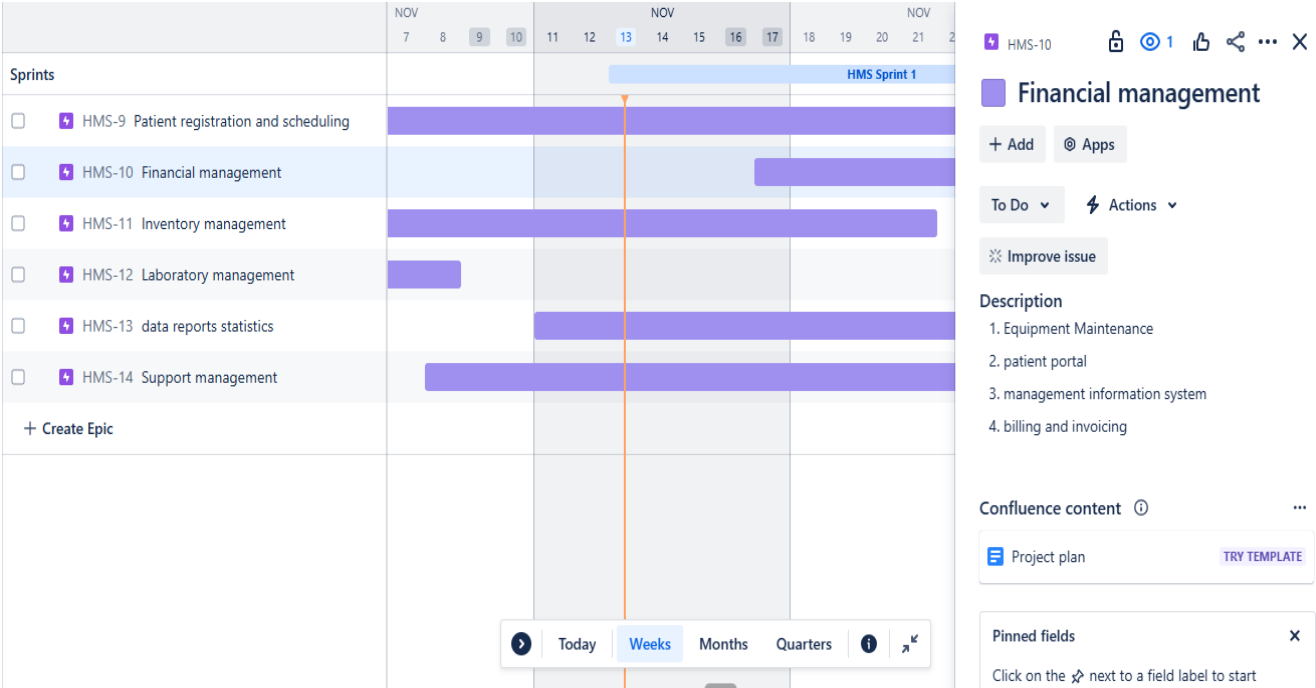## WEEKLY SCHEDULE FOR MODULES IN HMS:

MONTHLY SCHEDULE :
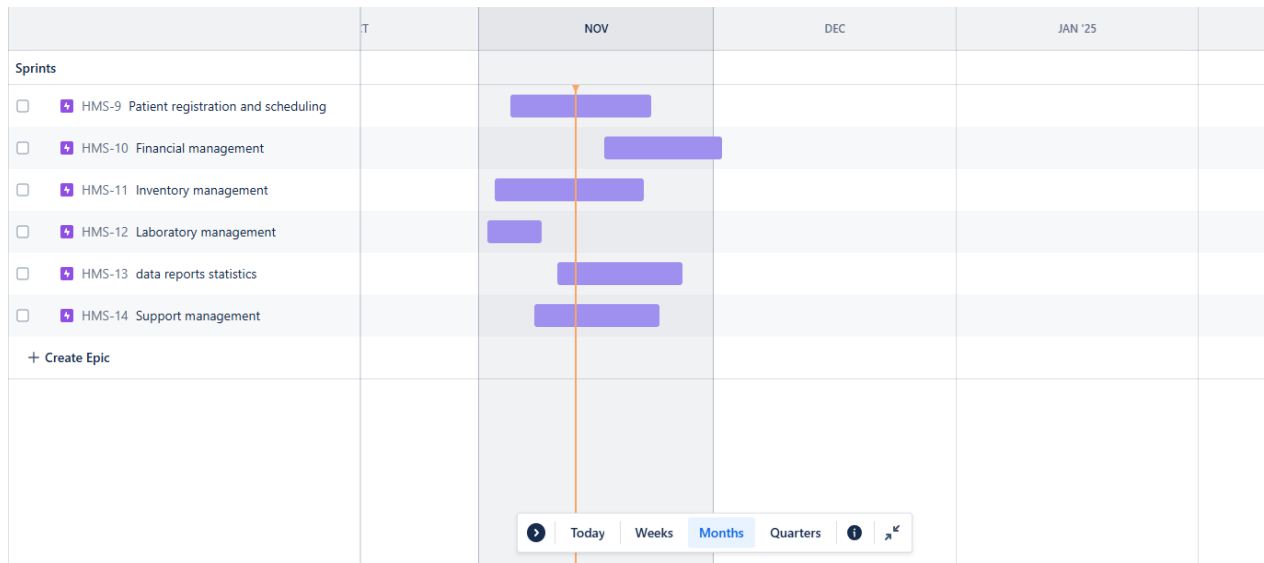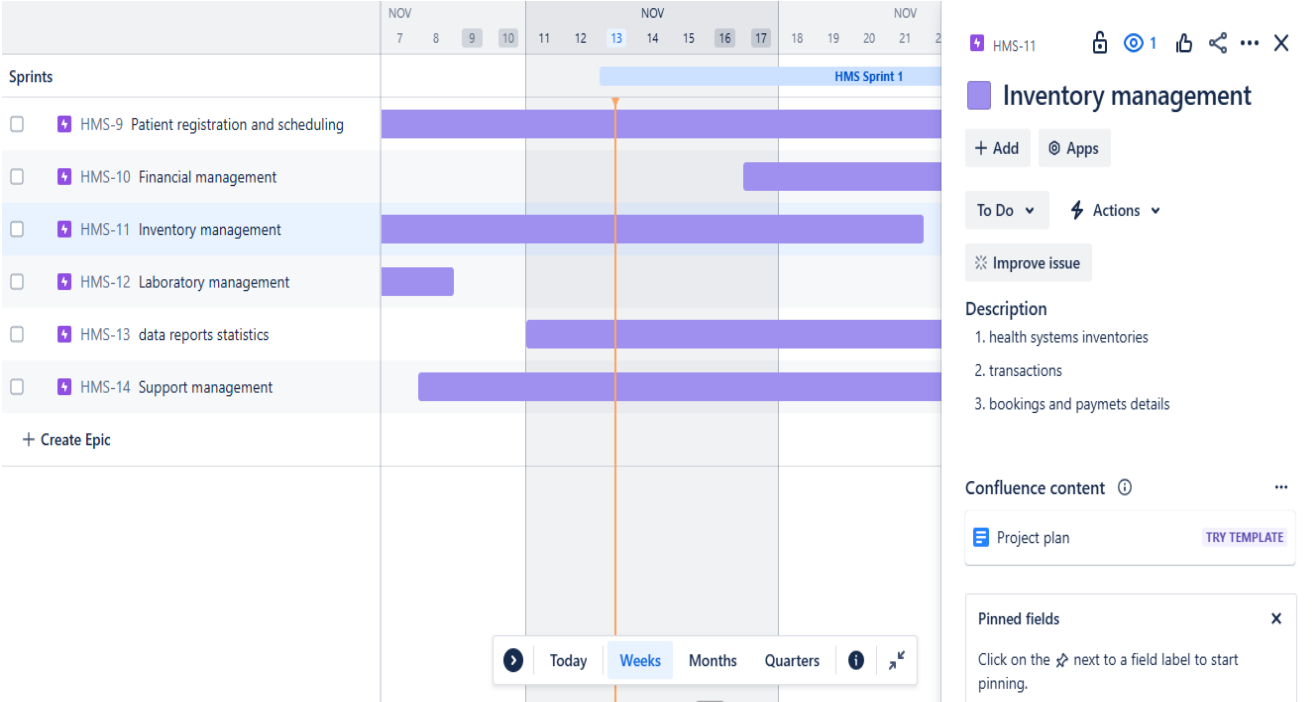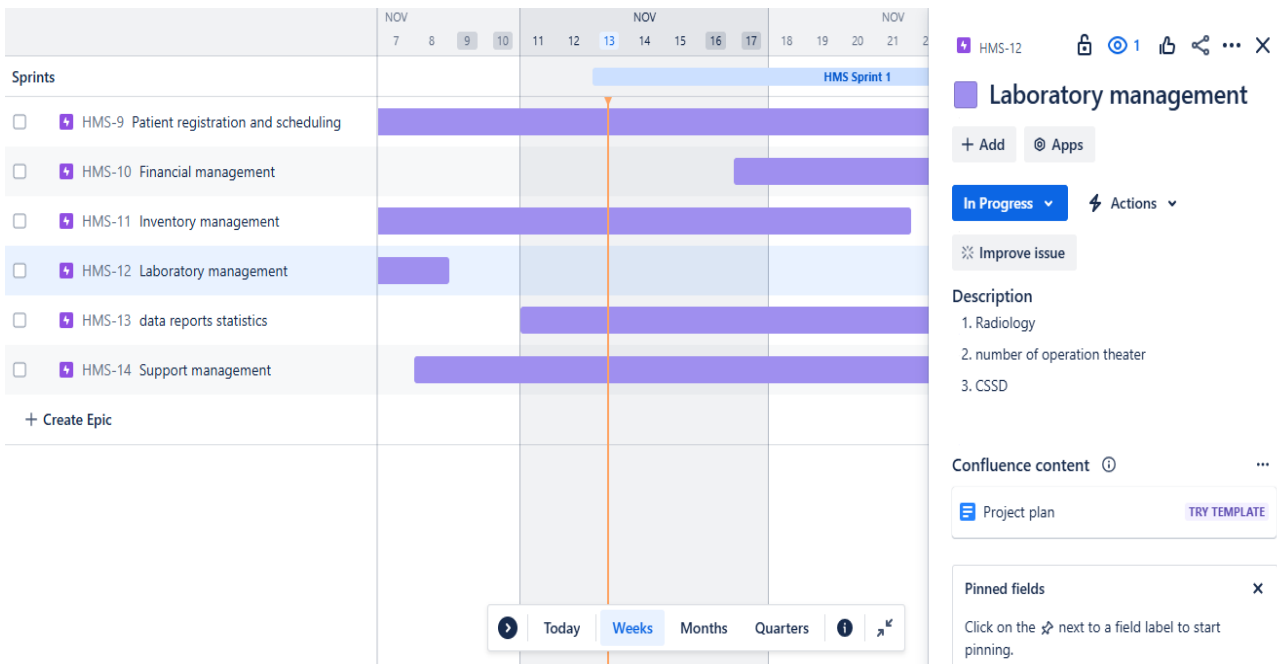

TO DO'S IN EACH MODULE
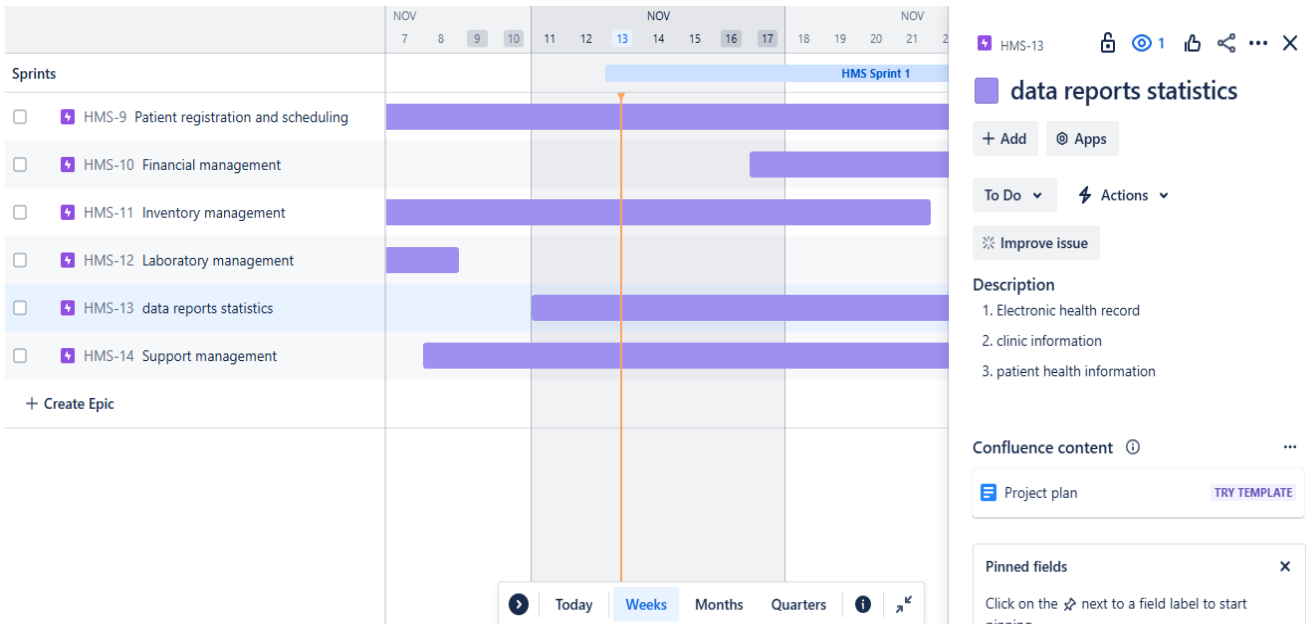
REGISTRATION MODULE:

FINANCIAL MANAGEMENT:

	NOV				NOV						NOV			
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21

Sprints — HMS Sprint 1

- ☐ ⚡ HMS-9 Patient registration and scheduling
- ☐ ⚡ HMS-10 Financial management
- ☐ ⚡ HMS-11 Inventory management
- ☐ ⚡ HMS-12 Laboratory management
- ☐ ⚡ HMS-13 data reports statistics
- ☐ ⚡ HMS-14 Support management
- ＋ Create Epic

Today | Weeks | Months | Quarters

⚡ HMS-10

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■ **Financial management**

＋ Add ⊚ Apps

To Do ⌄ ⚡ Actions ⌄

✦ Improve issue

Description
1. Equipment Maintenance
2. patient portal
3. management information system
4. billing and invoicing

Confluence content ⓘ ⋯

▤ Project plan — TRY TEMPLATE

Pinned fields ✕

Click on the ⚲ next to a field label to start

INVENTORY MANAGEMENT:

	NOV				NOV						NOV			
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21

Sprints — HMS Sprint 1

- ☐ ⚡ HMS-9 Patient registration and scheduling
- ☐ ⚡ HMS-10 Financial management
- ☐ ⚡ HMS-11 Inventory management
- ☐ ⚡ HMS-12 Laboratory management
- ☐ ⚡ HMS-13 data reports statistics
- ☐ ⚡ HMS-14 Support management
- ＋ Create Epic

Today | Weeks | Months | Quarters

⚡ HMS-11

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■ **Inventory management**

＋ Add ⊚ Apps

To Do ⌄ ⚡ Actions ⌄

✦ Improve issue

Description
1. health systems inventories
2. transactions
3. bookings and paymets details

Confluence content ⓘ ⋯

▤ Project plan — TRY TEMPLATE

Pinned fields ✕

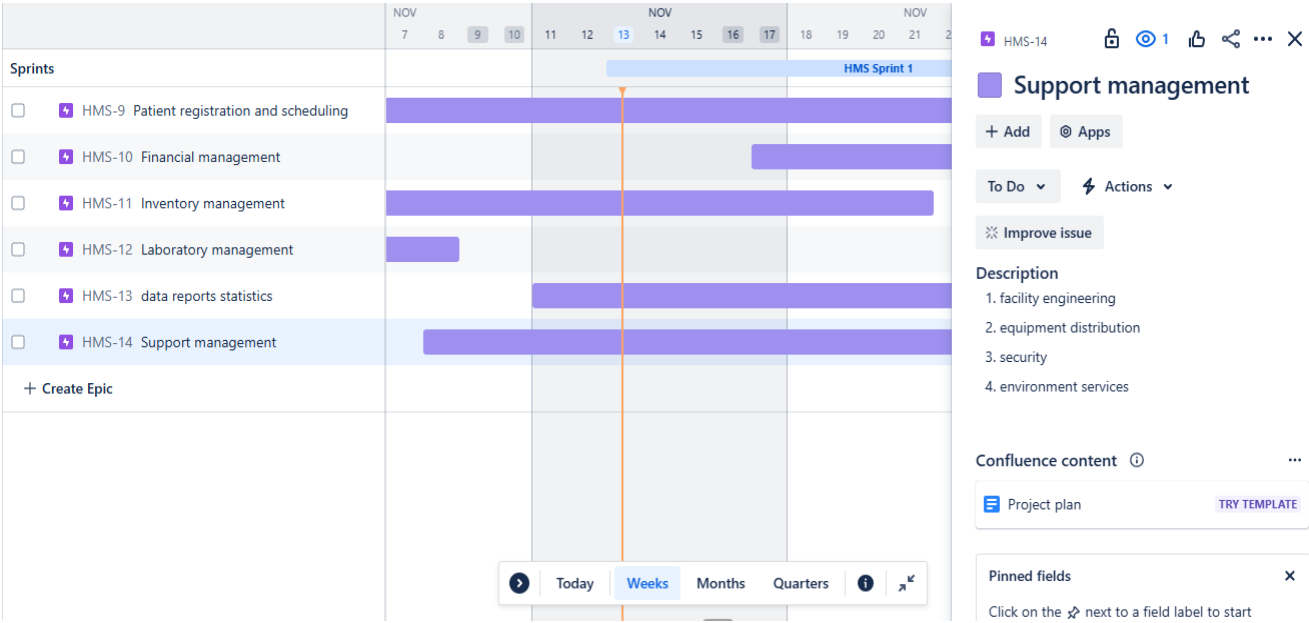Click on the ⚲ next to a field label to start pinning.
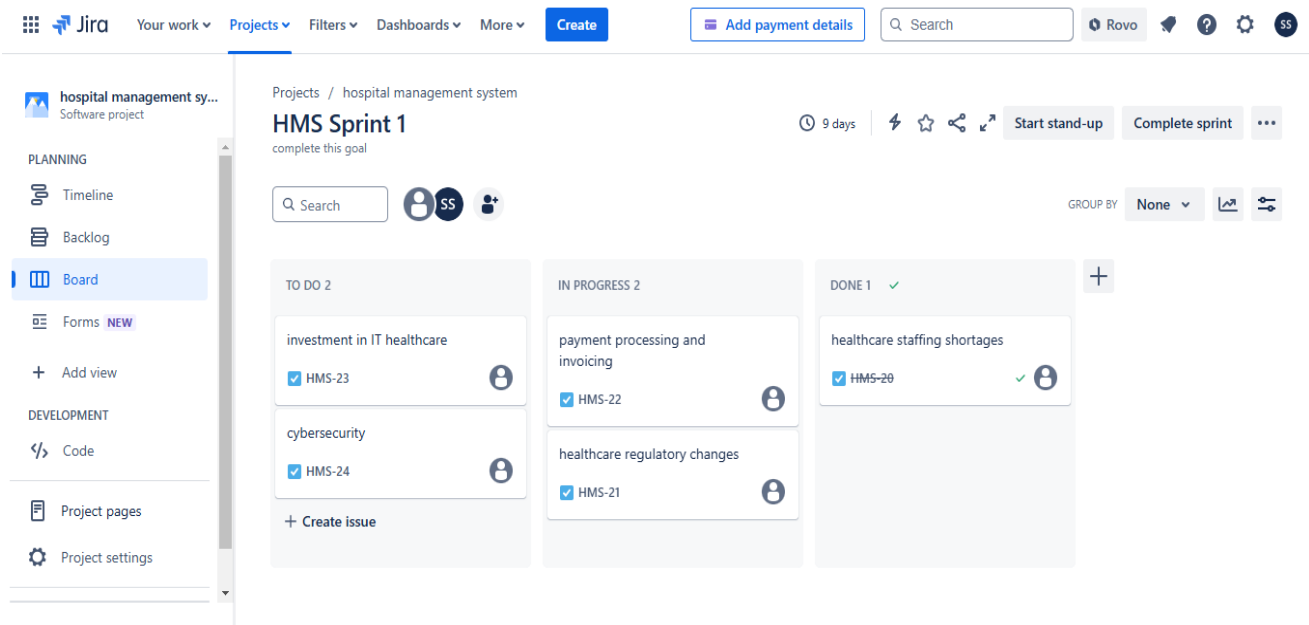
LABORATORY MANAGEMENT:

DATA REPORTS AND STATISTICS:

SUPPORT MANAGEMENT:

BOARD PLANNING FOR OVERALL ISSUES IN HMS:

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