

Clear All



JUNE 2025 – SEPT 2025

Stability Tests (14 filtered)



Manage Assignments

Filters

Pull Date

From

mm/dd/yy

To

mm/dd/yy

Method Num.

Search

Groups

 SMACI SMACII SMACIII

Dissolution

All Tests

Analysts

Search analysts...

 Unassigned John Doe SMACI Emily Rodriguez SMACI Dr. James Wilson SMACI Robert Kim SMACI

Pharmaceutical Stability Test Management Tool

Wednesday, February 5, 2025				
Monday	Tuesday	Wednesday	Thursday	Friday
27	28	29	30	31
QM1001 PharmaCorp Inc. Mon, Feb 5 SMACI John Doe	QM1003 PharmaCorp Inc. Tue, Feb 6 SMACI John Doe			QM1004 PharmaCorp Inc. Fri, Feb 7 SMACI John Doe
QM1002 PharmaCorp Inc. Mon, Feb 3 SMACI Emily Rodriguez			QM1001 PharmaCorp Inc. Wed, Feb 12 SMACI Dr. James Wilson DISSO David Park	QM1002 PharmaCorp Inc. Thu, Feb 13 SMACI Emily Rodriguez
10	11	12	13	14
QM1003 PharmaCorp Inc. Tue, Feb 6 SMACI John Doe		QM1002 PharmaCorp Inc. Thu, Feb 20 SMACI Emily Rodriguez	QM1003 PharmaCorp Inc. Fri, Feb 14 SMACI Robert Kim	
17	18	19	20	21

Wednesday, February 5, 2025

◀ Previous Day

1 task

SMACI (1 task)

QM1003
PharmaCorp Inc.
Wed, Feb 5 ◁ Mon, Feb 6
SMACI A John Doe

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/ Introduction

/ Product Space

This project aimed to help pharmaceutical team leaders and respective scientists (analysts) create a new process of managing their stability tests.

Stability tests are scientific tests that test how a medical product (e.g. drug, medical device) changes over time under different environmental conditions (e.g. temperature, humidity).

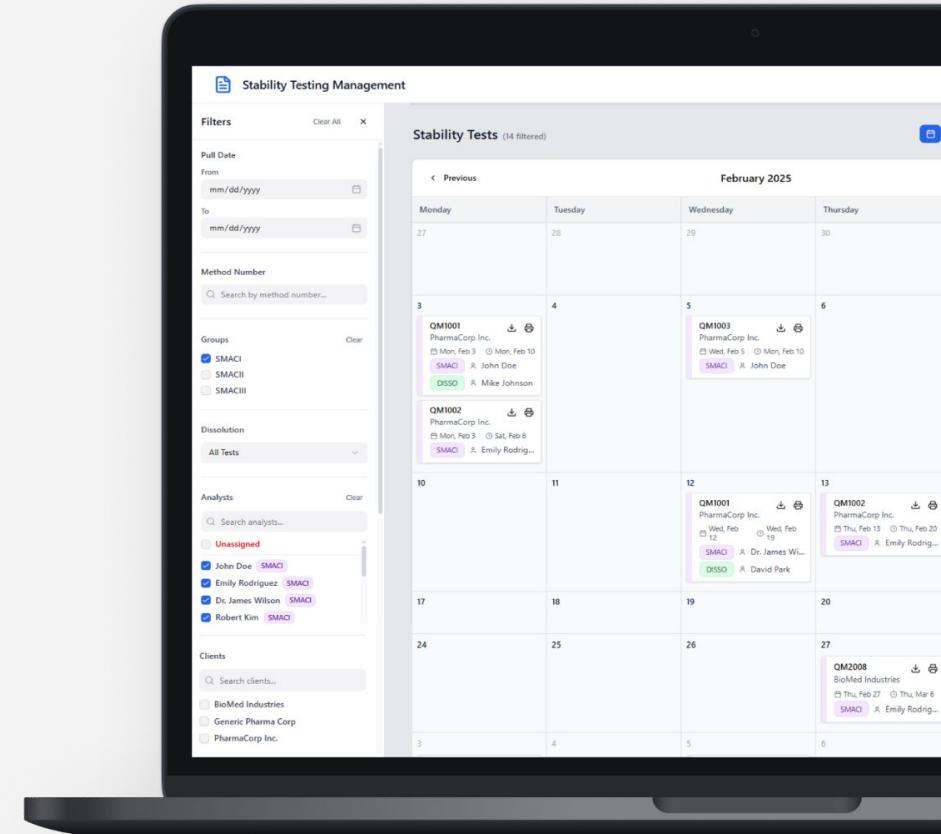


/ Executive Summary

Define the future state experience for managing stability tests.

My top achievements on the project include:

- Prototyping a fully functional prototype via vibe coding
- Improving redesigned system usability score by 74%
- Documenting vibe coding learnings and best practices for our design team

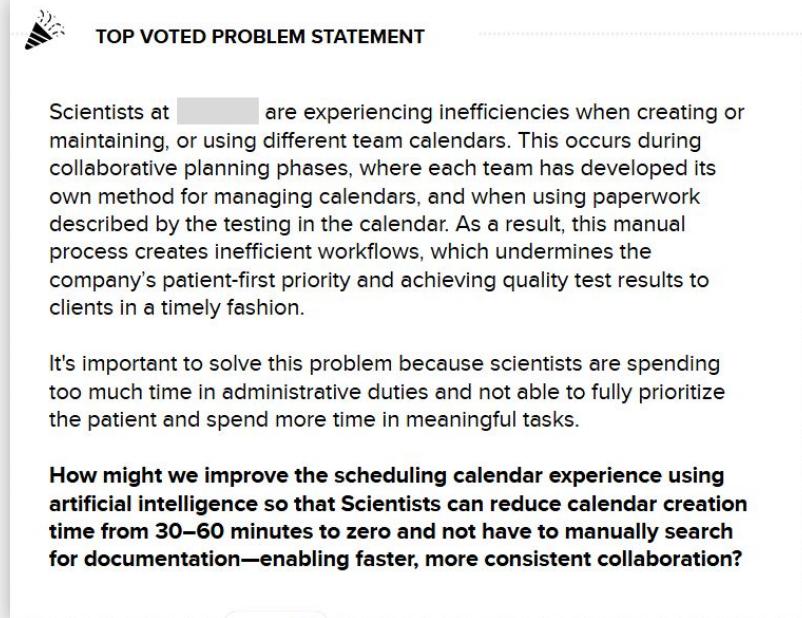


/ Problem Discovery

/ Current State Problems

Conducted a **Problem Framing Workshop** to align on the problem to be solved

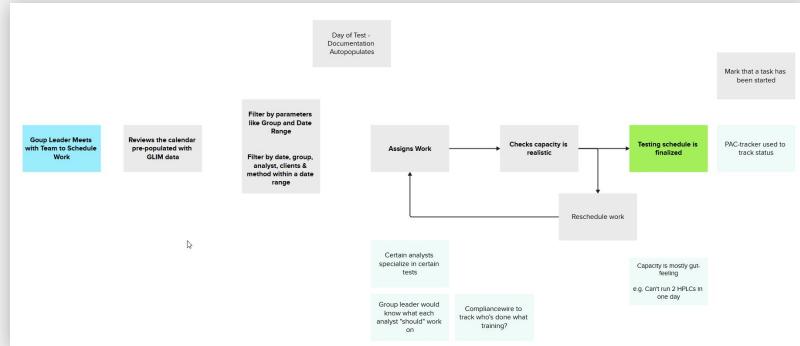
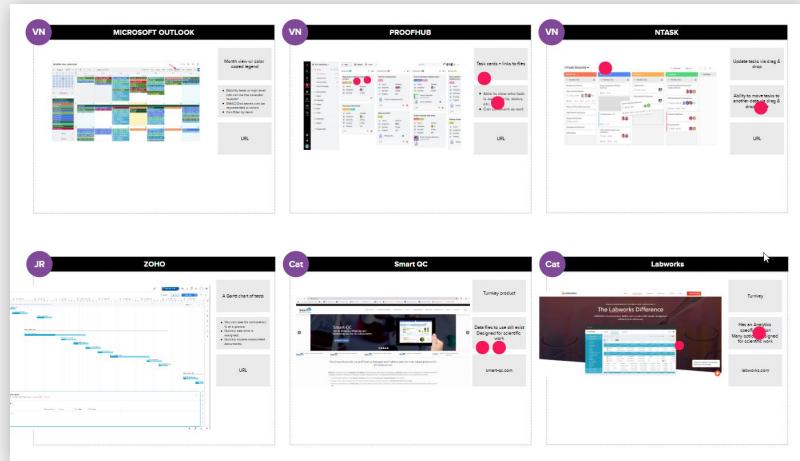
- Highly manual process of creating testing calendars
- Scavenger-hunt-like process of finding respective testing documents for each test
- New analysts need to search through documentation twice. Once to find what equipment to use for the test, and once when they need to execute the test.



/ Future-State Discovery

Conducted a condensed **Design Sprint** to ideate on solution to the problem, including how AI can help

- Use AI to read through documents and identify IDs to required testing paperwork
- Collaborated with our Solution Architect to explain capabilities of AI
- “Lightning demos” to provide participants inspiration
- Focused on fleshing out future state user flow to avoid confusion during prototyping

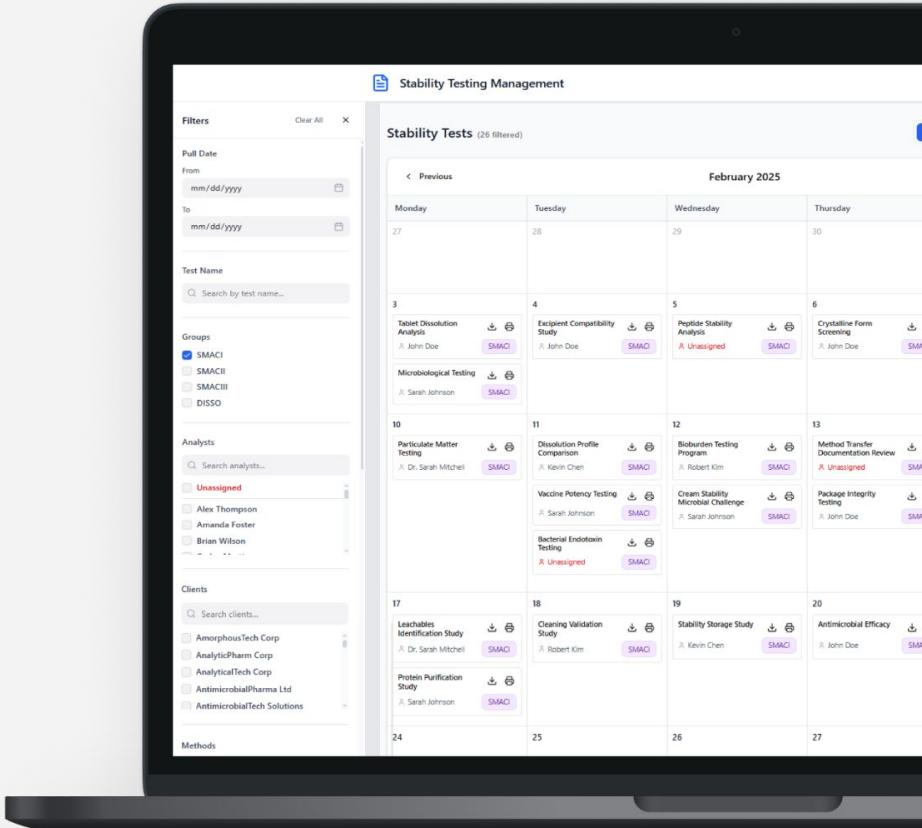


/ Prototype Creation & Testing

/ Design Execution

- Created a rough paper sketch to put a visual to the user test flow
- Utilized Figma Make to create a fully functional prototype
- Hosted fast-follow feedback sessions to receive stakeholder approval prior to user testing

Prototype →



Stability Testing Management

Group Leader

Manage Assignments

Search analysis...

SMACI SMACII SMACIII DESO

From mm/dd/yyyy To mm/dd/yyyy Sort by Alphabetical

A Unassigned 3 tasks

- Psych Stability Analysis **3 tasks**
 - Wet test 1
 - Reproductions...
- Method Transfer Documentation Review **2 tasks**
 - Wet test 11
 - Transfer Test Ph...
- Bacterial Endotoxin Testing **2 tasks**
 - Wet test 11
 - Validation Test...

A Alex Thompson 2 tasks

- Extractables Testing Analysis **2 tasks**
 - Wet test 14
 - Reproductions...
- Method Transfer Validation **2 tasks**
 - Wet test 21
 - Method Trans...

A Dr. James Wilson 2 tasks

- Protein Aggregation Kinetics **2 tasks**
 - Wet test 9
 - Reproductions...
- Formation Development Study **2 tasks**
 - Wet test 17
 - Reproductions...

A Dr. Sarah Mitchell 2 tasks

- Particulate Matter Testing **2 tasks**
 - Wet test 13
 - Reproductions...
- Leachables Testing **2 tasks**
 - Wet test 17
 - Reproductions...

A Emily Rodriguez 2 tasks

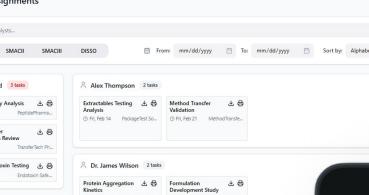
- Cat Viability Screening **2 tasks**
 - Wet test 8
 - Validate Test...
- Stability Testing Validation **2 tasks**
 - Wet test 11
 - Stability Test...

Filters

Pull Date

From mm/dd/yyyy

To mm/dd/yyyy



The screenshot shows the 'Bacterial Endotoxin Testing' task in the 'Task Details' section. It includes a 'Required Documents' table with 'Download All' and 'Actions' columns, and a 'Required Equipment' table with 'View Equipment Directory' and 'Actions' columns. The 'Assigned To' field is set to 'Unassigned'.

Stability Testing Management							Group Leader	
Stability Tests (26 items)							Manage Assignments	
Task Name	Assigned To	Full Date	Team	Client	Method	Actions		
Tablet Dissolution Analysis	A. John Doe	○ Mon, Feb 3	SMAC	PharmaCorp Inc.	USP Dissolution Method	Edit	Delete	Details
Microbiological Testing	Sarah Johnson	○ Mon, Feb 3	SMAC	SteinerPharma Inc	USP Microbiology Testing	Edit	Delete	Details
Excipient Compatibility Study	A. John Doe	○ Tue, Feb 4	SMAC	ExperientTech Ltd.	DSC Compatibility Testing	Edit	Delete	Details
Peptide Stability Analysis	A. Unassigned	○ Wed, Feb 5	SMAC	PeptidePharma Corp	Peptide Stability Testing	Edit	Delete	Details
Cryopreservation Screen	A. John Doe	○ Thu, Feb 6	SMAC	CryostarTech Technologies	Polymer Analysis	Edit	Delete	Details
Cell Viability Cytotoxicity Assessment	A. Emily Rodriguez	○ Sat, Feb 8	SMAC	Cytotoxic Technologies	MTT Cytotoxicity Assay	Edit	Delete	Details
Protein Aggregation Kinetics	A. Dr. James Wilson	○ Sun, Feb 9	SMAC	ProteomeTech Ltd.	SEC-HPLC Aggregation	Edit	Delete	Details
Microtiter Assay Testing	A. Dr. Sarah Mitchell	○ Mon, Feb 10	SMAC	ParticleTech Industries	USP Particulate Testing	Edit	Delete	Details
Stability Profile Comparison	A. Kristi Chen	○ Tue, Feb 11	SMAC	GenericPharma Corp	Dissolution Profile Comparisons	Edit	Delete	Details
Anticancer Potency Testing	A. Sarah Johnson	○ Tue, Feb 11	SMAC	WatcoTech Industries	Vaccine Potency Assay	Edit	Delete	Details
Endotoxin Testing	A. Unassigned	○ Tue, Feb 11	SMAC	Endotoxin Corp	LAL Endotoxin Testing	Edit	Delete	Details
Bioburden Testing Program	A. Robert Kim	○ Wed, Feb 12	SMAC	Bioclean Pharmaceuticals	Membrane Filtration	Edit	Delete	Details
Chemical Stability Microbial Challenge	A. Sarah Johnson	○ Wed, Feb 12	SMAC	Dermatix Sciences	Microbial Enumeration	Edit	Delete	Details
Method Transfer Documentation Review	A. Unassigned	○ Thu, Feb 13	SMAC	TransTech Pharmaceuticals	WTO Method Transfer Validation	Edit	Delete	Details
Storage Integrity Testing	A. John Doe	○ Thu, Feb 13	SMAC	PackedgeTech Industries	Package Integrity Testing	Edit	Delete	Details
Batchable Testing Analysis	A. Alex Thompson	○ Fri, Feb 14	SMAC	PackedgeTest Solutions	QC MS/ICP-MS Extractions	Edit	Delete	Details

The screenshot displays the 'Stability Testing Management' application. On the left, a sidebar contains filters for 'Pull Date' (From mm/dd/yyyy to mm/dd/yyyy), 'Test Name' (Search by test name...), 'Groups' (SMACI, SMACII, SMACIII, DISO), 'Analysts' (Unassigned, Alex Thompson, Amanda Foster, Brian Wilson), 'Clients' (Search clients..., AmorphousTech Corp, AnalyticalPharm Corp, AnalyticalTech Corp, AntimicrobialPharma Ltd, AntimicrobialTech Solutions), and 'Methods' (Search methods...). The main area shows a calendar for February 2025 with days Monday through Friday. Each day has a list of stability tests assigned to specific analysts, each with a 'SMACI' status indicator. The tasks include:

- 27: Tablet Dissolution Analysis (John Doe, SMACI)
- 28: Microbiological Testing (Sarah Johnson, SMACI)
- 29: Excipient Compatibility Study (John Doe, SMACI)
- 30: Peptide Stability Analysis (John Doe, SMACI)
- 31: Crystalline Form Screening (John Doe, SMACI)
- 1: Dissolution Profile Comparison (Sarah Johnson, SMACI)
- 2: Biodegradation Testing Program (Kevin Chen, SMACI)
- 3: Vaccine Potency Testing (Sarah Johnson, SMACI)
- 4: Bacterial Endotoxin Testing (John Doe, SMACI)
- 5: Create Stability Maturity Challenge (Sarah Johnson, SMACI)
- 6: Package Integrity Testing (John Doe, SMACI)
- 7: Extractables Testing Analysis (Alex Thompson, SMACI)
- 10: Permeability Maturity Testing (Sarah Johnson, SMACI)
- 11: Dissolution Profile Comparison (Kevin Chen, SMACI)
- 12: Biodegradation Testing Program (Robert Kim, SMACI)
- 13: Method Transfer Documentation Review (John Doe, SMACI)
- 14: Create Stability Maturity Challenge (Sarah Johnson, SMACI)
- 15: Package Integrity Testing (John Doe, SMACI)
- 17: Leachables Identification Study (Sarah Johnson, SMACI)
- 18: Cleaning Validation Study (Robert Kim, SMACI)
- 19: Stability Storage Study (Sarah Johnson, SMACI)
- 20: Antimicrobial Efficacy (John Doe, SMACI)
- 21: Method Transfer Validation (Alex Thompson, SMACI)
- 24: Protein Purification Study (Sarah Johnson, SMACI)
- 25: Cleaning Validation Study (Robert Kim, SMACI)
- 26: Stability Storage Study (Sarah Johnson, SMACI)
- 27: Antimicrobial Efficacy (John Doe, SMACI)
- 28: Method Transfer Validation (Alex Thompson, SMACI)

On the right, a sidebar lists '10 tasks' including SMACI (2 tasks), Bacterial Endotoxin Testing (Unassigned, SMACI), Dissolution Profile Comparison (Kevin Chen, SMACI), Vaccine Potency Testing (Sarah Johnson, SMACI), SMACII (2 tasks), Controlled Release Microsphere (Sarah Chen, SMACI), Dermal Penetration Study (Michael Brown, SMACI), SMACIII (2 tasks), DNA Damage Assessment (Chris Anderson, SMACI), and Protein Folding Analysis (Michelle Lee, SMACII). The top right shows the date 'Tuesday, February 11, 2025' and navigation buttons for 'Previous Day' and 'Next Day'.

/ User Testing

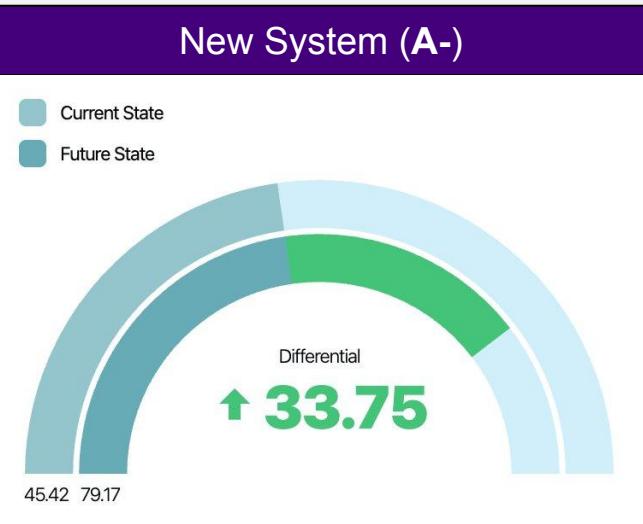
- Drafted and conducted a moderated user testing session with 6 participants to validate our design approach.
- Used the [System Usability Score](#) methodology to benchmark our success.
 - 45.42 (F) to 79.17 (A-)
- Analyzed and documented the results into a report that is easily shareable with stakeholders.

[User Testing Artifacts →](#)

Previous System (F)

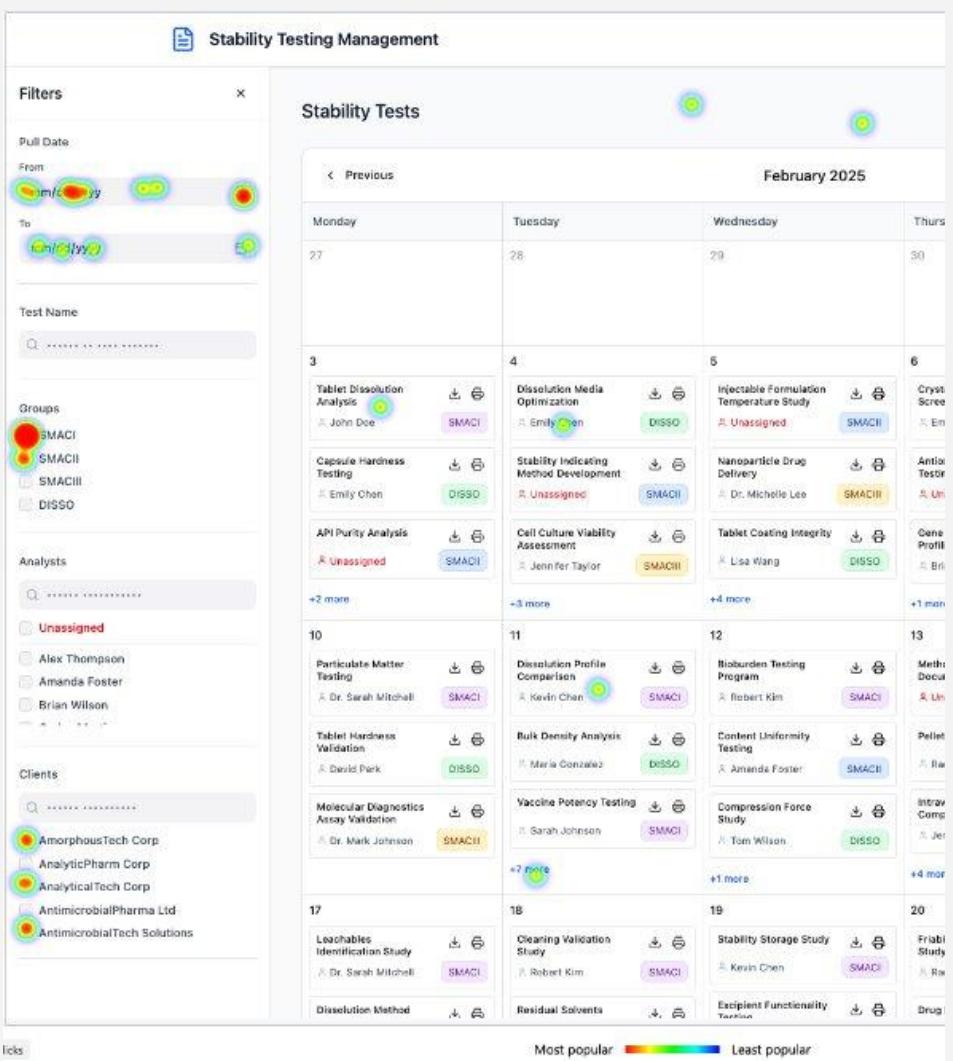


New System (A-)



Experiments with Microsoft Clarity

- Utilized Microsoft Clarity to track click events, heatmaps, etc.
- Experimented with techniques to track smart events in Clarity via the code in the Figma Make Prototype
- Discovered information in Clarity would be more valuable with a higher quantity of users over time, but this was still a great learning experience.



Tablet Tests	(14 items)
February 2025	
Test Name	
Tablet Dissolution Analysis	
HPLC Purity Analysis	
Weight Variation Testing	
Hardness Testing	
Thickness Testing	
Tablet Dissolution Analysis	
HPLC Purity Analysis	
Weight Variation Testing	
Hardness Testing	

March 2025
Test Name
Endotoxin Testing
Container Closure
HPLC Asepy Testing

Prototype →

/ Project Learning

/ Vibe Coding Learnings

- Provide app description, persona and user flow contexts in the initial prompt
- Avoid giving too much contextual information (e.g. company info) as the AI will get confused. Human interpretation of this information and using it as guidance is still required (at least for now)
- Chain requests together to save on credits
- Utilize toolbar features (e.g. “magic cursor”, margin / padding settings) to make more nuanced changes

The screenshot shows a software interface for 'Stability Testing Management' within a project titled 'Project Tzolkin V2'. The interface includes a toolbar with icons for file operations, a sidebar with filters for 'Pull Date' (from mm/dd/yyyy to mm/dd/yyyy), 'Method Number' (search bar), 'Groups' (checkboxes for SMACI, SMACII, SMACIII), 'Dissolution' (dropdown for 'All Tests'), 'Analysts' (dropdown for 'Search analysts...' with a list of unassigned analysts: John Doe, Emily Rodriguez, Dr. James Wilson, Robert Kim, Alex Thompson, all associated with SMACI), and a 'Clients' section. The main area displays a calendar view for 'Stability Tests' (14 filtered) from Monday, February 27 to Tuesday, February 28. The calendar shows two entries: QM1001 (PharmaCorp Inc.) and QM1002 (PharmaCorp Inc.). Each entry includes a date range (Mon, Feb 3 to Mon, Feb 10 for QM1001, and Mon, Feb 3 to Sat, Feb 8 for QM1002), a 'SMACI' status indicator, and a 'DISSO' status indicator. The bottom of the interface features a toolbar with icons for file operations, a search bar, and a 'Clients' section.

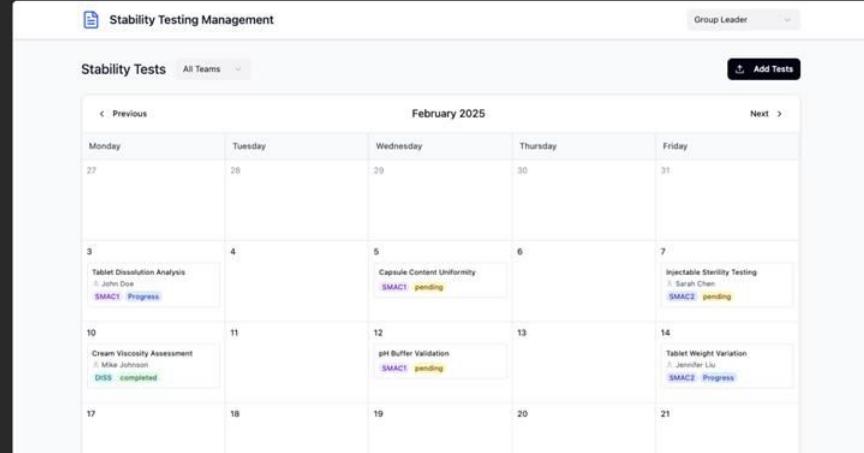
/ Documenting Learnings

- Created an “input prompt vs vibe coded output” case study document
- Created a best practices document listing learnings for the design team’s reference

Iteration Prompt

❖ Arrange the cards in a month view where the columns are Monday - Friday. Include a section to go between months, and only show one month at a time

Output



February 2025				
Monday	Tuesday	Wednesday	Thursday	Friday
27		29	30	31
3	4	5	6	7
Tablet Dissolution Analysis John Doe SMAC1: Progress		Capsule Content Uniformity SMAC1: pending		Injectable Sterility Testing Sarah Chen SMAC2: pending
10	11	12	13	14
Cream Viscosity Assessment Mike Johnson DSS: completed		pH Buffer Validation SMAC1: pending		Tablet Weight Variation Jennifer Lee SMAC2: Progress
17	18	19	20	21

Iteration Prompt

❖ If a task is unclaimed, use the same person icon paradigm as the other ones, except replace the person's name with "Unclaimed" in red text

❖ Add icon buttons to download and print the relevant documents for the task. Also, remove the status tags and make the person icon red as well if the task is unclaimed

/ Conclusion

The project is currently still in progress with development starting in the coming weeks.

Throughout this process, I learned some valuable key lessons:

- Regularly check for understanding
- Don't be afraid to pivot if something isn't working
- Vibe coding is a powerful tool to master, even if it's constantly changing
- AI is ultimately a tool that should be intentionally utilized to solve a relevant problem (vs shoehorning it into every project)



/ Q&A

Thank you.