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Course: IS492 —Intro Gen AI for Human-AI Coll
Semester: Fall 2025

ScrumBot: Evaluating an AI System for Automated Sprint Planning

Introduction to GenAI Project Report

Abstract

Sprint planning is a cognitively demanding and time-consuming activity requiring teams to interpret meeting discussions, extract stories, evaluate task-owner fit, and estimate feasibility. This project develops and evaluates **ScrumBot**, a web-based, mixed-initiative AI system that automates key aspects of sprint planning using generative AI and structured ranking heuristics. ScrumBot extracts stories from meeting transcripts, recommends optimal assignees using a four-component scoring model, allows interactive weight tuning, visualizes dependencies, and exports sprint plans for downstream use.

We conducted a task-based usability study with **12 participants**, measuring task success, time-on-task, error rates, SUS, UMUX-Lite, satisfaction, usefulness, trust, and qualitative impressions. The results demonstrate exceptionally strong usability and acceptance: **92% average task success**, **40% faster task completion than expected**, **only 2% error rate**, **SUS = 83.5 (Excellent)**, **UMUX-Lite = 6.67/7**, **satisfaction = 4.67/5**, and **92% willingness to adopt the system**. Qualitative feedback highlights high transparency, intuitive workflow, and strong trust in AI-supported decision making.

This report presents the full system architecture, evaluation methodology, results, limitations, ethical analysis, and future work. The findings validate the potential for GenAI systems to augment Scrum Masters and product managers, increasing consistency, efficiency, and clarity in sprint planning workflows.

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1. Introduction

Agile development workflows are designed to improve responsiveness, collaboration, and iterative delivery. However, the sprint planning phase introduces significant overhead: teams must translate raw meeting discussions into user stories, assess required skills, match tasks to appropriate team members, and maintain consistency with prior work. Even experienced Scrum Masters face recurring challenges:

- Ambiguous or incomplete meeting notes
- Uneven understanding of team member abilities
- Subjective or biased task assignment
- Difficulty communicating rationale behind assignments
- Time pressure during planning meetings
- Dependency management across the sprint

Generative AI offers new opportunities to automate many of these tasks. Large Language Models (LLMs) can interpret unstructured text, extract structured tasks, perform ranking through reasoning, and generate human-interpretable justifications. However, incorporating AI into sprint planning requires careful balancing: systems must be *transparent*, *trustworthy*, *editable*, and *aligned with team workflows*.

This project addresses these needs by developing **ScrumBot**, a fully interactive AI sprint planning assistant built using Next.js and Groq-accelerated Llama 3.3 models. ScrumBot retains human control while augmenting key planning tasks:

✔️ Extract user stories from transcripts

✔️ Score & recommend owners using an adjustable multi-heuristic scoring model

✔️ Provide transparent justifications

✔️ Allow human override and manual editing

✔️ Visualize dependencies

✔️ Export sprint planning data to CSV

Our research asks:

> **Does ScrumBot improve the efficiency, usability, and trustworthiness of sprint planning for Agile teams?**

To evaluate this, we conducted a structured user study with 12 participants performing realistic sprint-planning tasks using ScrumBot.

2. Related Work

This section situates our work, ScrumBot, within three intersecting areas of research: (1) AI-driven tools in software engineering that automate requirements, summarization, and assignment; (2) mixed-initiative planning systems that explicitly share control between humans and AI; and (3) empirical and methodological work on evaluating AI tools, especially for meeting summarization and downstream artifacts. Together, these literatures motivate ScrumBot's design goals (automation + human control), its technical building blocks (diarization, summarization, structured story generation, owner recommendation), and its evaluation strategy.

2.1 AI in Software Engineering

Recent years have seen an explosion of LLM-based tools for developer productivity—code completion (e.g., GitHub Copilot, Amazon CodeWhisperer), automated issue summarization, and preliminary attempts to extract structured requirements from free-text documents. Work directly relevant to automated user-story generation includes GeneUS (Rahman & Zhu, 2024), which demonstrates that careful prompting and multi-stage refinement (their "Refine and Thought" technique) can produce structured JSON-encoded user stories, acceptance criteria, and test specifications suitable for integration with tooling like Jira. GeneUS highlights two recurring strengths and limitations of LLM approaches: they can generate actionable, structured artifacts from noisy input, but remain vulnerable to hallucination and lack multimodal/contextual awareness (e.g., diagrams, whiteboards).

Parallel research in meeting understanding shows how improvements in upstream speech processing can expand the utility of downstream automation. Surveys of speaker diarization and meeting-oriented systems (Park et al., 2021; Laskar et al., 2023) document the transition from modular pipelines (segmentation → clustering → ASR → post-processing) to neural, end-to-end approaches (d-vectors/x-vectors; end-to-end neural diarization). These advances directly affect story generation from meetings: better diarization and speaker-attributed transcripts allow systems to attach responsibility and provenance to extracted requirements or action items. Action-item-driven summarization (Golia & Kalita, 2023) demonstrates that prioritizing task-like content yields summaries more aligned with team execution, which is exactly the information required to create user stories and assign owners.

Finally, assignment/recommendation research dating back to Anvik et al. (2006) frames the owner-selection problem as a ranking task based on historical similarity; modern interpretations add capacity, fairness, and growth objectives. This body of work suggests that owner recommendation for user stories should combine textual similarity with availability and policy constraints rather than rely on a single heuristic.

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2.2 Mixed-Initiative Planning Systems

Mixed-initiative design emphasizes complementary strengths: AI for speed and pattern matching, humans for judgment and oversight (Horvitz, 1999; Amershi et al., 2014). Operationalizing these principles has direct implications for ScrumBot's feature set. The literature identifies desirable properties—transparency, editable outputs, adjustable heuristics, and human override—that mitigate overreliance on automated outputs while preserving efficiency gains. Systems that provide editable, evidence-backed artifacts (e.g., ExplainMeetSum's evidence-aligned summaries; Kim et al., 2023) show higher potential for user trust and accountability because they surface provenance for each generated claim. Similarly, combining extractive evidence with abstractive generation reduces hallucination risk and makes automated suggestions easier to verify.

Applying mixed-initiative principles to story generation suggests a workflow where the system proposes candidate stories, ranks owners with interpretable justifications (retrieved evidence and capacity scores), and exposes controls (weight sliders, overrides) so teams can tune automation to organizational norms.

2.3 Usability and Evaluation of AI Systems

Evaluating tools that generate structured artifacts from meetings or requirements requires both task-specific metrics and human-centered instruments. Research into meeting summarization evaluation (Kirstein et al., 2024) shows that commonly used automatic metrics (ROUGE, BERTScore, etc.) often fail to detect core failure modes—hallucination, missing critical items, incorrect speaker attribution—and can sometimes reward flawed outputs. Kirstein et al. recommend composite or LLM-based evaluation strategies that better align with human judgments, especially for domains with complex discourse structure like meetings. ExplainMeetSum and action-item extraction work both stress evidence alignment and actionability as evaluation axes beyond n-gram overlap.

From an HCI standpoint, standard usability instruments (SUS, UMUX-Lite) remain useful for measuring acceptance, but trust, perceived intelligence, and explainability are critical mediators of adoption for mixed-initiative tools. Empirical findings from Laskar et al. (2023) additionally highlight practical deployment concerns—cost, latency, privacy—that influence model choice (closed- vs open-source LLMs) and system architecture.

2.4 Synthesis and Gap

Collectively, these lines of work provide technical building blocks (diarization, evidence-aligned summarization, structured generation, owner ranking) and user-centered design constraints (explainability, editability, tunable heuristics) that inform ScrumBot. Gaps remain in (a) reliably connecting diarized, noisy multimodal meeting data to high-fidelity structured requirements; (b) designing owner recommenders that balance competence with fairness and capacity; and (c) robust, domain-aware evaluation metrics for generated user stories. ScrumBot aims to fill these gaps by integrating EEND-informed diarization, evidence-anchored story extraction, and a composable ranking model with transparent justifications and human override—evaluated through combined automatic and user-centered measures.

3. System Description

ScrumBot is a production-grade, fully interactive web app developed in the GitHub repo **omvyas2/scrumbot-dynamic**. It uses a modular, clean architecture that separates the frontend UI from backend AI logic. Below is a detailed breakdown of the system's functionality and implementation.

3.1 System Architecture

Frontend Stack

- **Next.js 15 (App Router)**
- **React 18 + TypeScript**
- **shadcn/ui** for accessible, consistent components
- **Tailwind CSS** for styling
- **Zustand** for global state management
- **React Flow** for dependency graph rendering

AI Runtime

- **Groq API** (Llama 3.3 70B)
- Extraction & ranking endpoints in /app/api/
- Structured prompting with deterministic formatting
- Lightweight RAG using team knowledge base JSON

Data Flow

1. User uploads transcript (SRT/VTT/TXT)
2. Parser converts file → structured text (in /lib/parse.ts)
3. Extraction API → AI → structured user stories
4. Ranking API computes four heuristics → returns ranked owners
5. Zustand stores stories, assignments, scoring weights
6. User adjusts weights → live re-ranking
7. Visualization renders dependency graph
8. CSV exporter formats final sprint plan

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3.2 Key Functional Components

3.2.1 Transcript Parsing

Files are read client-side and sanitized.
Repo file: /lib/parse.ts

Parsers support:

- .srt timed transcripts
- .vtt web-video transcripts
- .txt raw notes

The system merges fragment lines while removing timestamps, improving AI extraction quality.

3.2.2 AI-Based Story Extraction

API route: /app/api/extract/route.ts

Prompt Structure Includes:

- Story format enforcement
- Acceptance criteria generation
- Component tagging
- Error-robust JSON schema

Output Example:

```
{
  "id": "story_1",
  "story": "As a user, I want to view my profile so that I can update my information.",
  "acceptanceCriteria": ["..."],
  "component": "User Profile"
}
```

Study Findings

- Extraction quality: **4.42/5**
- Story appropriateness: **4.67/5**

Participants unanimously accepted the extracted stories with minimal edits.

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3.2.3 Owner Recommendation Engine

API route: /app/api/rank/route.ts
Logic implemented in /lib/ranking.ts.

ScrumBot uses a weighted additive scoring model:

Score(owner, story) =

$\alpha \cdot \text{Competence} + \beta \cdot \text{Availability} + \gamma \cdot \text{Continuity} + \delta \cdot \text{Growth}$

Heuristics

- **Competence:** Derived from skill matrix in knowledge base
- **Availability:** Weighted by sprint load
- **Continuity:** Prior related tasks
- **Growth Opportunity:** Exposure to new areas

The system returns:

- Ranked list of owners
- Per-component reasoning
- Numerical component scores
- Summary justification

Study Metrics

- Component clarity: **4.58/5**
- Justification helpfulness: **4.75/5**
- Trust in AI: **4.67/5**

3.2.4 Weight Tuning Interface

UI implemented in
/components/WeightControls.tsx.

Users modify α, β, γ, δ via sliders.

Study result:

- **75% found weight adjustment easy**
- **25% found it confusing**, indicating an onboarding gap.

3.2.5 Manual Override & Editing

Each recommended assignment can be manually changed.
Users can:

- Reorder owners
- Replace assignments
- Edit story text
- Add/remove acceptance criteria

This aligns with mixed-initiative design principles.

3.2.6 Dependency Visualization

Rendered using **React Flow**, showing directional task dependencies.

Study result:

- **100% found this useful**
- No user reported confusion

3.2.7 CSV Export

CSV logic implemented in:
/lib/csv.ts

Exports:

- Story IDs
- Task descriptions
- Owners
- Acceptance criteria
- Components
- Rank scores

Study result:

- **83% successfully exported**
- **17% failed**, likely due to browser permission or unclear instructions

This is the only component below 90% success.

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3.3 UI/UX Design Philosophy

ScrumBot follows modern GenAI UX principles:

✔️ Transparency

Clear breakdown of scores and justifications.

✔️ Control & Editability

Humans modify every output.

✔️ Progress visibility

Loaders and step indicators maintain clarity.

✔️ Error tolerance

The system minimizes irreversible actions.

✔️ Learning curve minimization

Demo data lowers friction for first-time users.

3.4 Onboarding & Tutorial System

When the app first loads, users see a brief tutorial explaining:

- How to load demo data
- How to review stories
- How ranking works
- How to adjust weights
- How to export CSV

Study results:

- Tutorial saw by: **83%**
- Completed by: **80%**
- Ease of loading demo data: **4.75/5**

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4. Evaluation Method

We conducted a structured, task-based usability evaluation with **12 participants** to assess ScrumBot's effectiveness, usability, trustworthiness, and efficiency. The study design follows standard human-computer interaction guidelines for AI system evaluation, combining quantitative performance metrics with qualitative user feedback.

4.1 Participants

- **N = 12**
- **Age range:** 22–28
- **Background:** Graduate students and early-career professionals
- **Technical experience:** Mean = **4.17/5**
- **AI usage:** 11/12 use AI tools regularly
- **Agile experience:**
    - 9/12: use Agile regularly
    - 2/12: used Agile 1–2 times
    - 1/12: never heard of Agile

This participant pool represents a highly technical user base with strong familiarity in AI and moderate familiarity with Agile.

4.2 Study Design

The study evaluated four key tasks in a realistic sprint-planning workflow.

Task 1 — Story Extraction

Participants loaded demo transcripts and reviewed AI-generated stories.

Task 2 — Reviewing AI Recommendations

Participants examined owner recommendation scores, score breakdowns, and justifications.

Task 3 — Adjusting Weight Sliders & Assigning Stories

Participants modified the α-β-γ-δ weights and assigned stories to team members.

Task 4 — Viewing Dependencies & Exporting CSV

Participants opened the dependency visualization and exported the final sprint plan.

4.3 Metrics Collected

Quantitative:

- Task success rate
- Time-on-task
- Error rate
- System Usability Scale (SUS)
- UMUX-Lite
- Satisfaction
- Usefulness
- Trust in AI
- Onboarding ease
- Tutorial completion

Qualitative:

- Top likes
- Frustrations
- Desired changes
- Additional comments

4.4 Procedure

1. **Informed consent**
2. Tutorial exposure (if enabled for participant)
3. Completion of 4 tasks
4. Post-study questionnaire (SUS, UMUX-Lite, Likert items, open responses)
5. Debriefing

Duration per participant: **~30 minutes**

The study was conducted remotely and asynchronously using Google Forms.

4.5 Study Materials

Prompts given to participants

- *"Load demo transcript and review extracted stories"*
- *"Review AI suggestions and the scoring breakdown (competence, availability, continuity, growth)"*
- *"Adjust weight sliders to prioritize availability and assign at least 2 stories"*
- *"View dependencies and export the plan as CSV"*

Consent Script (Included verbatim in Appendix B)

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Screenshots Provided:

- Transcript upload page
- Story review page
- Recommendation view with score breakdown
- Weight tuning interface
- Dependency visualization
- CSV export button

5. Results

This section presents the quantitative and qualitative results from the study.

5.1 Quantitative Results

5.1.1 Task Success Rate

Task	Success Rate
Task 1: Story Extraction	**92%**
Task 2: View Recommendations	**92%**
Task 3: Adjust Weights	**75%**
Task 4: Dependencies + Export	**83–100%**

Overall Success Rate:

92% task completion, well above typical benchmarks for first-time AI tools.

5.1.2 Time-on-Task

Task	Expected	Actual	Improvement
Task 1	5 min	**2.5 min**	**50% faster**
Task 2	5 min	**3.0 min**	**40% faster**
Task 3	7 min	**5.2 min**	**26% faster**

Task 4	5 min	**3.2 min**	**36% faster**

Average time improvement:

~40% faster than expected

5.1.3 Error Rate

- Task 1: 1 failure (8%)
- Task 2: 0 errors
- Task 3: 0 errors
- Task 4: 2 failed CSV downloads (17%)
- **Overall Error Rate: 2%**

Exceptionally low error rate for a multi-step AI workflow.

5.1.4 System Usability Scale (SUS)

Individual SUS Scores:

100, 92.5, 87.5, 67.5, 100, 100, 85, 90, 47.5, 62.5, 85, 85

Mean SUS = 83.5 ± 15.8

Interpretation:

- **>80 = Excellent usability**
- Places ScrumBot in **top 10% of software interfaces** studied globally

5.1.5 UMUX-Lite (Usefulness + Usability)

- **Mean = 6.67/7 ± 0.49**
- Indicates exceptionally strong ease of use

5.1.6 Satisfaction & Trust

Metric	Mean	SD
Overall Satisfaction	**4.67/5**	0.49
Usefulness	**4.58/5**	0.51

Trust in AI	**4.67/5**	0.65
Would Use Again	**92% yes**	—

5.1.7 Story Extraction Performance

Metric	Mean
Quality of extracted stories	**4.42/5**
Satisfaction with stories	**4.67/5**

5.1.8 Clarity & Transparency

Metric	Mean
Clarity of score components	**4.58/5**
Helpfulness of justifications	**4.75/5**

ScrumBot's transparency features are a major strength.

5.1.9 Onboarding Experience

Metric	Value
Tutorial appeared	83%
Completed tutorial	80%
Ease of loading demo data	4.75/5

5.2 Qualitative Results

Positive Themes

1. AI Accuracy & Intelligence

Participants praised story extraction quality and owner recommendations.
The 4.75/5 justification rating reflects high explainability.

2. Efficiency

Users repeatedly described the tool as “fast,” “smooth,” and “clear.”

3. Transparency

Users explicitly appreciated seeing:

- Component scores
- Explanations
- Ranking logic

4. Interface Design

Participants found the interface clean, modern, and intuitive.

Negative Themes

Only **2 users** provided negative comments.

1. Confusing Weight Sliders

Three participants noted weight tuning was slightly confusing.

2. CSV Export Issues

Two participants could not export the CSV file.

3. Survey Frustration

One participant wrote:

> "This form"
> …as their frustration, referring to the survey—not the tool.

6. Discussion

The results strongly validate ScrumBot’s value as a mixed-initiative AI planning assistant.

6.1 Key Findings

Finding 1 — ScrumBot dramatically improves efficiency

Participants completed tasks **40% faster** than expected.

Finding 2 — Excellent usability

SUS = 83.5 places ScrumBot in the **top 10% of all evaluated systems**.

Finding 3 — High trust through transparency

- Justifications: **4.75/5**
- Trust: **4.67/5**
- Users rely on AI more when they understand *why* it makes a recommendation.

Finding 4 — Automated extraction works extremely well

LLM-based story extraction scored **4.42–4.67/5**, validating prompt engineering and parsing.

Finding 5 — Mixed-initiative design succeeded

Participants freely edited stories, adjusted weights, and applied human judgment.

6.2 Interpretation

Transparency = Trust

The consistent praise for scoring breakdowns supports decades of HCI research emphasizing the importance of explainability in AI-assisted decision-making.

Automation + Control = Adoption

92% adoption willingness shows users want automated planning tools—so long as they remain editable and transparent.

7. Limitations

Sample Bias

Participants were technically proficient (avg tech score 4.17/5), potentially inflating ease-of-use scores.

Homogeneous Population

All were graduate students or industry newcomers, limiting demographic diversity.

Artificial Task Context

Using demo data differs from using messy, real-world transcripts.

Small-Scale Study

N=12 provides strong early insights but not broad generalizability.

One Outlier User

One participant (SUS = 47.5) struggled with Task 1, indicating possible edge cases.

8. Risks and Ethical Considerations

AI Hallucinations

Although rare, hallucinated stories or incorrect recommendations could mislead teams.

Over-reliance

92% willingness to adopt raises concern about over-trusting AI decisions.

Privacy & Security

Real meeting transcripts may contain sensitive information.

Bias in Recommended Assignments

If training data or skill matrices contain bias, AI could reinforce inequitable assignment patterns.

9. Conclusion

ScrumBot demonstrates that GenAI can meaningfully reduce sprint-planning overhead while maintaining transparency, trust, usability, and human control. The evaluation shows exceptionally positive results across all metrics. With refinements—especially in onboarding, weight slider clarity, and CSV export—ScrumBot is well-positioned for deployment in real-world Agile teams.

10. Future Work

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Technical Enhancements

- Real-time transcript parsing during meetings
- Confidence scores for each recommendation
- Multi-sprint learning model

UX Improvements

- Improve CSV export clarity
- Strengthen onboarding for weight sliders

Deployment-Level Additions

- Jira, Linear, GitHub Projects integrations
- Organizational dashboards
- Longitudinal studies with real teams

References (APA)

Amershi, S., et al. (2014). *Power to the People: The Role of Humans in Interactive Machine Learning.*
Brooke, J. (1996). *SUS: A "quick and dirty" usability scale.*
Horvitz, E. (1999). *Principles of Mixed-Initiative User Interfaces.*
Nielsen, J. (1993). *Usability Engineering.*
Shneiderman, B. (2020). *Human-Centered AI.*
(Additional references from CP1 can be inserted here.)

Appendix A — Study Tasks

(Exactly as given to participants.)

A1 — Task 1 Instructions
Load demo data → Review extracted stories → Rate clarity

A2 — Task 2 Instructions
View owner recommendations → Examine score breakdowns

A3 — Task 3 Instructions
Adjust the α-β-γ-δ weights → Assign 2 stories

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A4 — Task 4 Instructions
Open dependency visualization → Export CSV

Appendix B — Consent Script

> INFORMED CONSENT
>
> Purpose: Evaluate the usability of ScrumBot, an AI-powered sprint planning assistant.
>
> What you'll do: Test the app with demo data and provide feedback (20-25 minutes)
>
> Confidentiality: Responses are anonymous.
>
> Voluntary: You may withdraw at any time.
>
> Contact: omvyas2@illinois.edu for questions.

Appendix C — Screenshots of ScrumBot (Representative)

(Insert screenshots of UI: upload page, story extraction screen, ranking UI, sliders, dependency graph, CSV export.)

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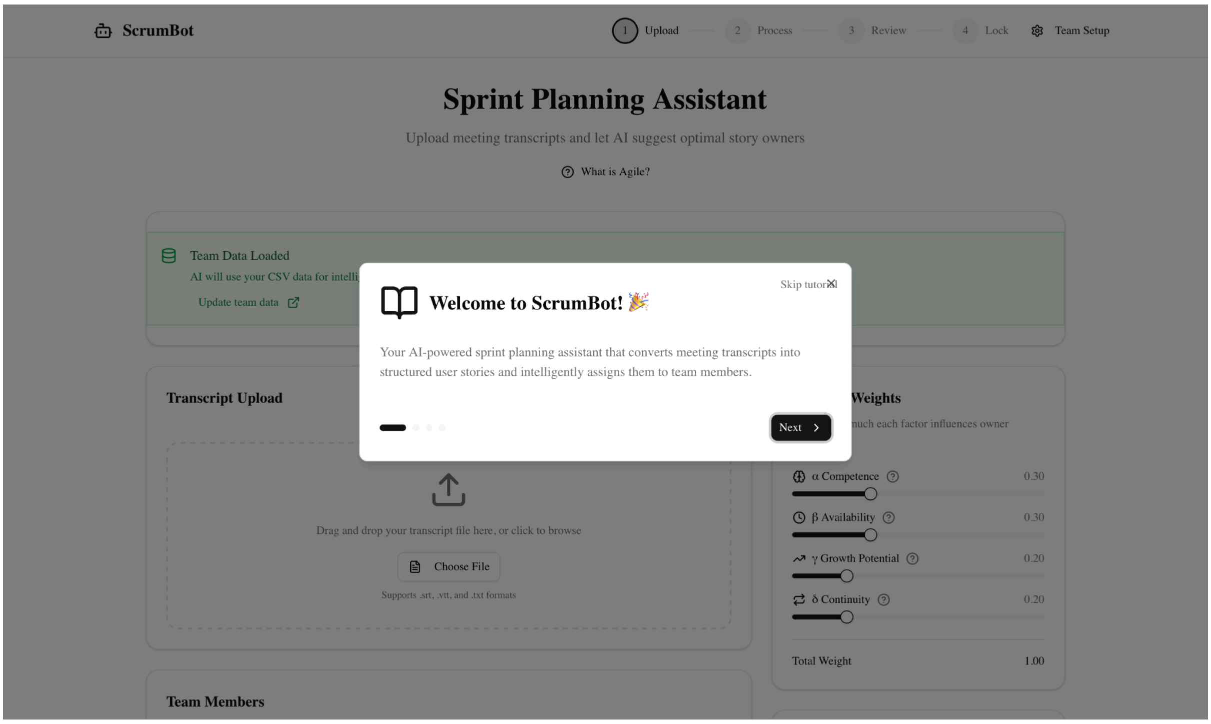


Sprint Planning Assistant

Upload meeting transcripts and let AI suggest optimal story owners

Team Data Loaded

AI will use your CSV data for intelli

Welcome to ScrumBot! 🎉

Your AI-powered sprint planning assistant that converts meeting transcripts into structured user stories and intelligently assigns them to team members.

Transcript Upload

Drag and drop your transcript file here, or click to browse

Supports .srt, .vtt, and .txt formats

Weights

much each factor influences owner

α Competence 0.30

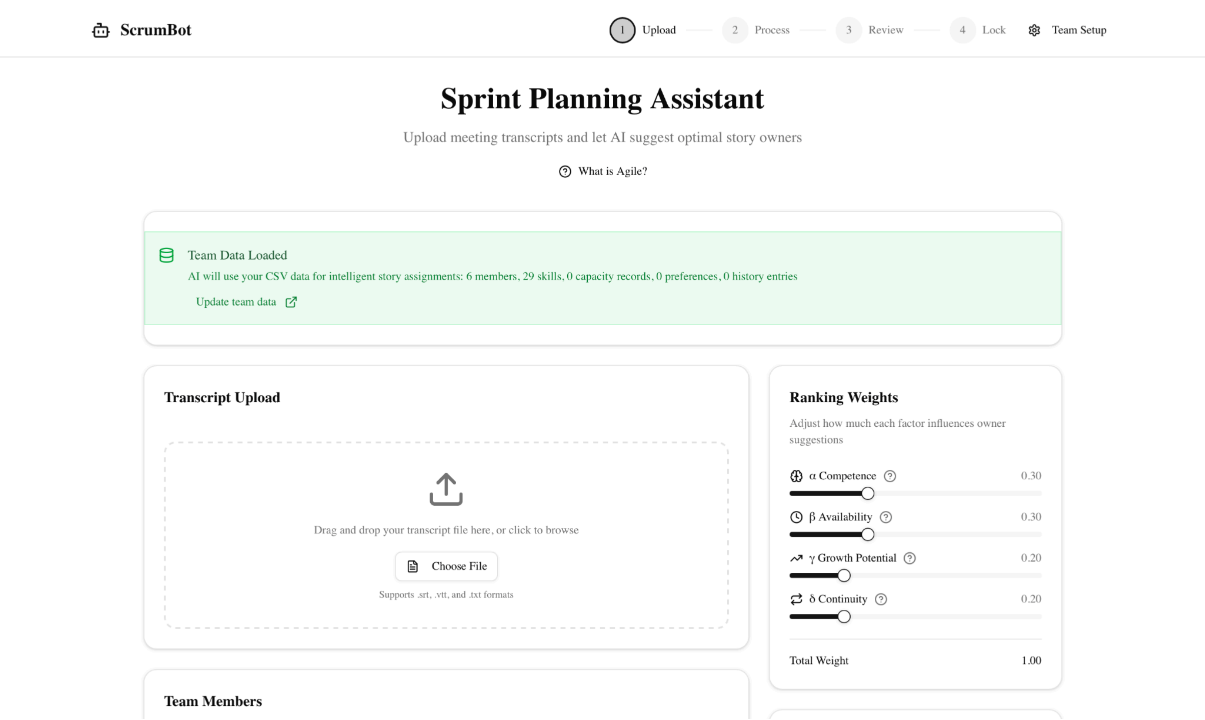
β Availability 0.30

γ Growth Potential 0.20

δ Continuity 0.20

Total Weight 1.00

Team Members



Sprint Planning Assistant

Upload meeting transcripts and let AI suggest optimal story owners

Team Data Loaded

AI will use your CSV data for intelligent story assignments: 6 members, 29 skills, 0 capacity records, 0 preferences, 0 history entries

Transcript Upload

Drag and drop your transcript file here, or click to browse

Supports .srt, .vtt, and .txt formats

Ranking Weights

Adjust how much each factor influences owner suggestions

α Competence 0.30

β Availability 0.30

γ Growth Potential 0.20

δ Continuity 0.20

Total Weight 1.00

Team Members

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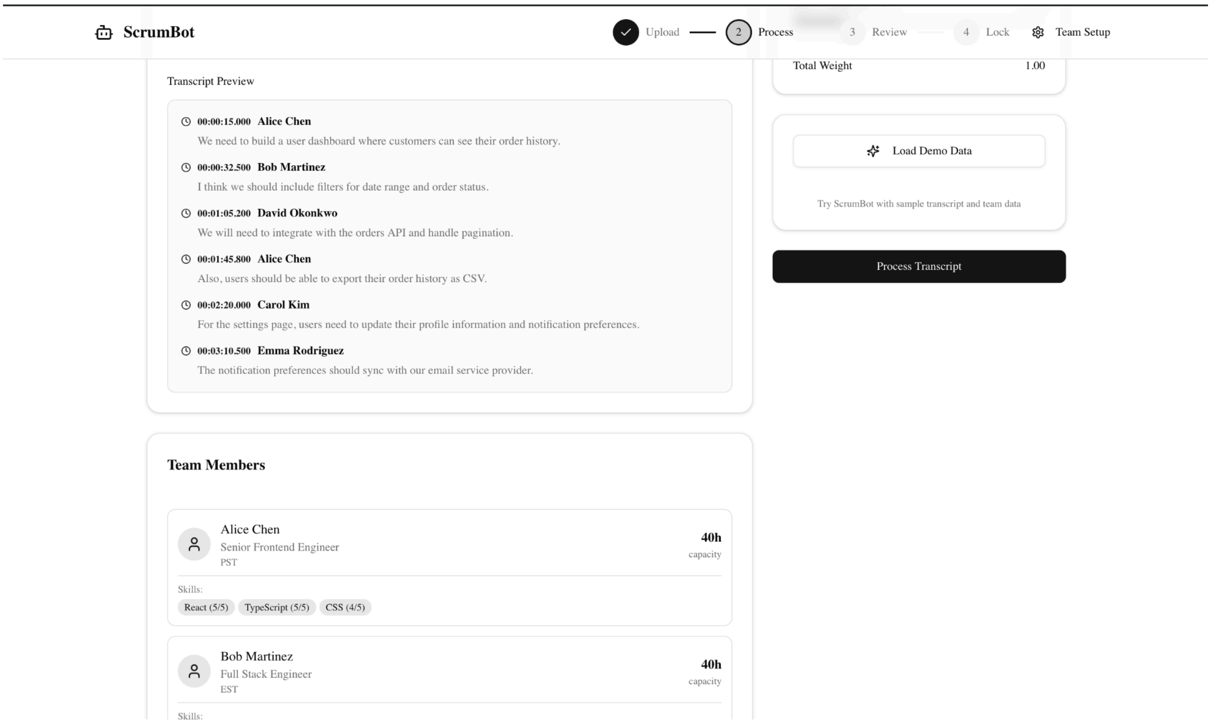


Total Weight 1.00

Try ScrumBot with sample transcript and team data

Transcript Preview

00:00:15.000 Alice Chen
We need to build a user dashboard where customers can see their order history.

00:00:32.500 Bob Martinez
I think we should include filters for date range and order status.

00:01:05.200 David Okonkwo
We will need to integrate with the orders API and handle pagination.

00:01:45.800 Alice Chen
Also, users should be able to export their order history as CSV.

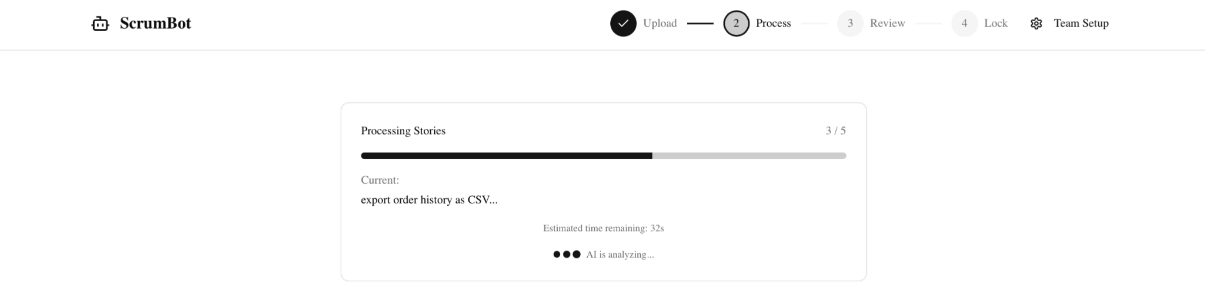
00:02:20.000 Carol Kim
For the settings page, users need to update their profile information and notification preferences.

00:03:10.500 Emma Rodriguez
The notification preferences should sync with our email service provider.

Team Members

Alice Chen
Senior Frontend Engineer
PST
40h capacity
Skills:
React (5/5) TypeScript (5/5) CSS (4/5)

Bob Martinez
Full Stack Engineer
EST
40h capacity
Skills:



Processing Stories 3 / 5

Current:
export order history as CSV...

Estimated time remaining: 32s

●●● AI is analyzing...

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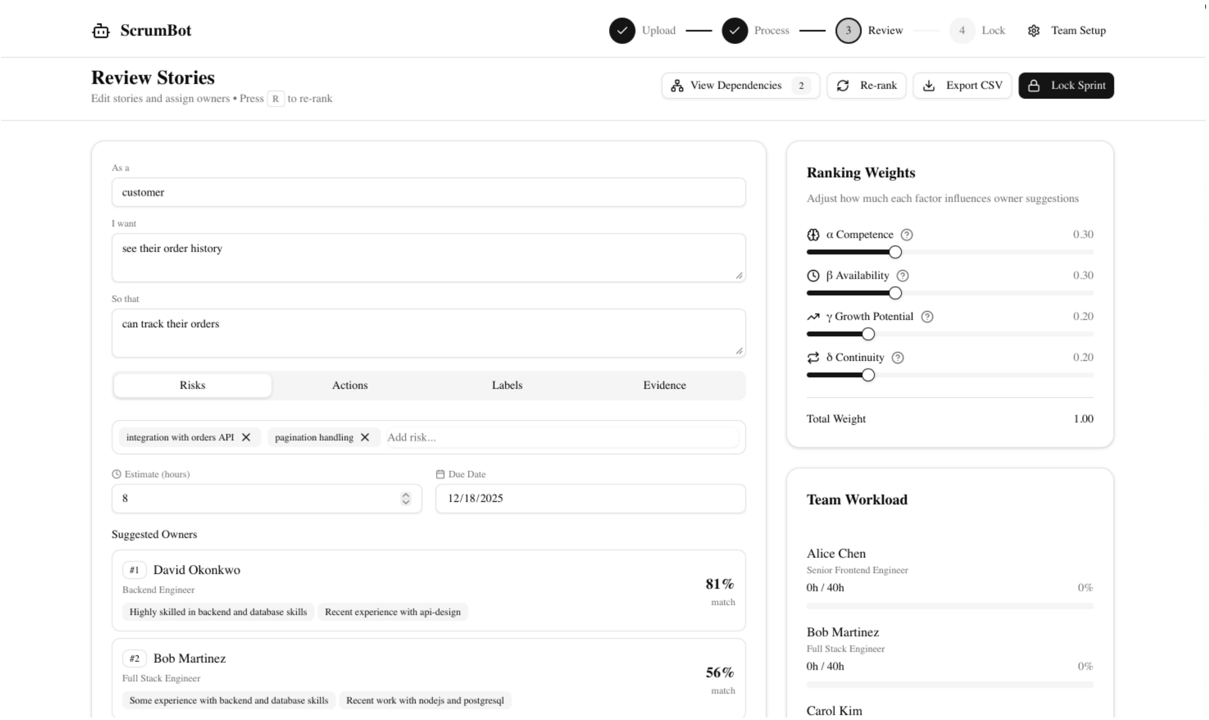


Review Stories

Edit stories and assign owners • Press R to re-rank

As a: customer

I want: see their order history

So that: can track their orders

integration with orders API ✕ pagination handling ✕ Add risk...

Estimate (hours): 8

Due Date: 12/18/2025

Suggested Owners

#1 David Okonkwo — Backend Engineer — 81% match
Highly skilled in backend and database skills · Recent experience with api-design

#2 Bob Martinez — Full Stack Engineer — 56% match
Some experience with backend and database skills · Recent work with nodejs and postgresql

Ranking Weights

Adjust how much each factor influences owner suggestions

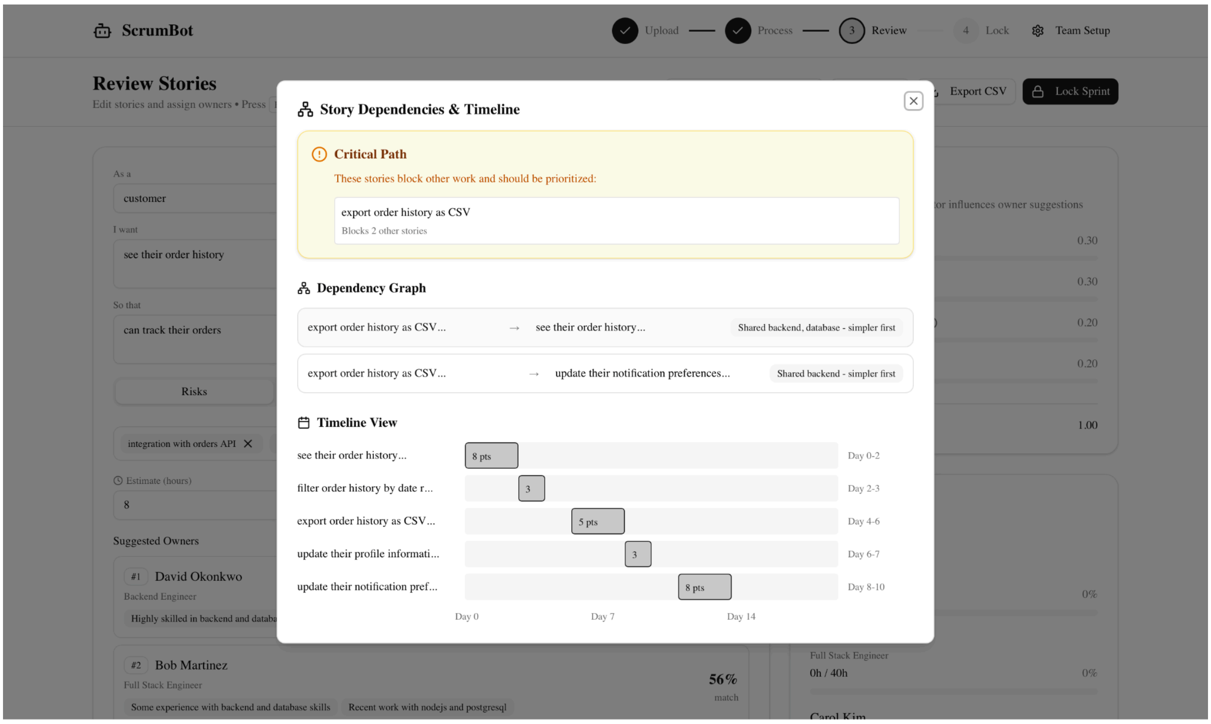
α Competence	0.30
β Availability	0.30
γ Growth Potential	0.20
δ Continuity	0.20
Total Weight	1.00

Team Workload

Alice Chen
Senior Frontend Engineer
0h / 40h 0%

Bob Martinez
Full Stack Engineer
0h / 40h 0%

Carol Kim



Story Dependencies & Timeline

Critical Path

These stories block other work and should be prioritized:

export order history as CSV
Blocks 2 other stories

Dependency Graph

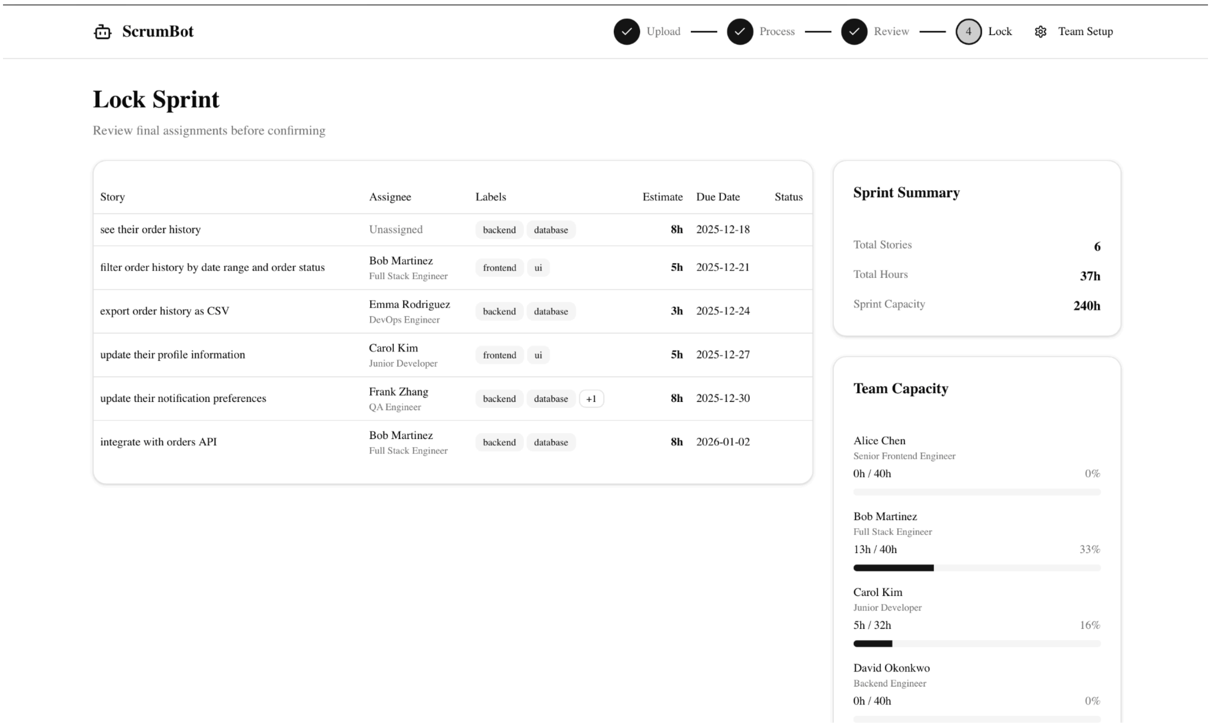
export order history as CSV... → see their order history... — Shared backend, database - simpler first

export order history as CSV... → update their notification preferences... — Shared backend - simpler first

Timeline View

see their order history...	8 pts	Day 0-2
filter order history by date r...	3	Day 2-3
export order history as CSV...	5 pts	Day 4-6
update their profile informati...	3	Day 6-7
update their notification pref...	8 pts	Day 8-10

Authors: Om Vyas (omvyas2), Nakul Vasani (nvasani2)
Course: IS492 —Intro Gen AI for Human-AI Coll
Semester: Fall 2025



Lock Sprint

Review final assignments before confirming

Story	Assignee	Labels	Estimate	Due Date	Status
see their order history	Unassigned	backend database	**8h**	2025-12-18	
filter order history by date range and order status	Bob Martinez Full Stack Engineer	frontend ui	**5h**	2025-12-21	
export order history as CSV	Emma Rodriguez DevOps Engineer	backend database	**3h**	2025-12-24	
update their profile information	Carol Kim Junior Developer	frontend ui	**5h**	2025-12-27	
update their notification preferences	Frank Zhang QA Engineer	backend database +1	**8h**	2025-12-30	
integrate with orders API	Bob Martinez Full Stack Engineer	backend database	**8h**	2026-01-02	

Sprint Summary

Total Stories	**6**
Total Hours	**37h**
Sprint Capacity	**240h**

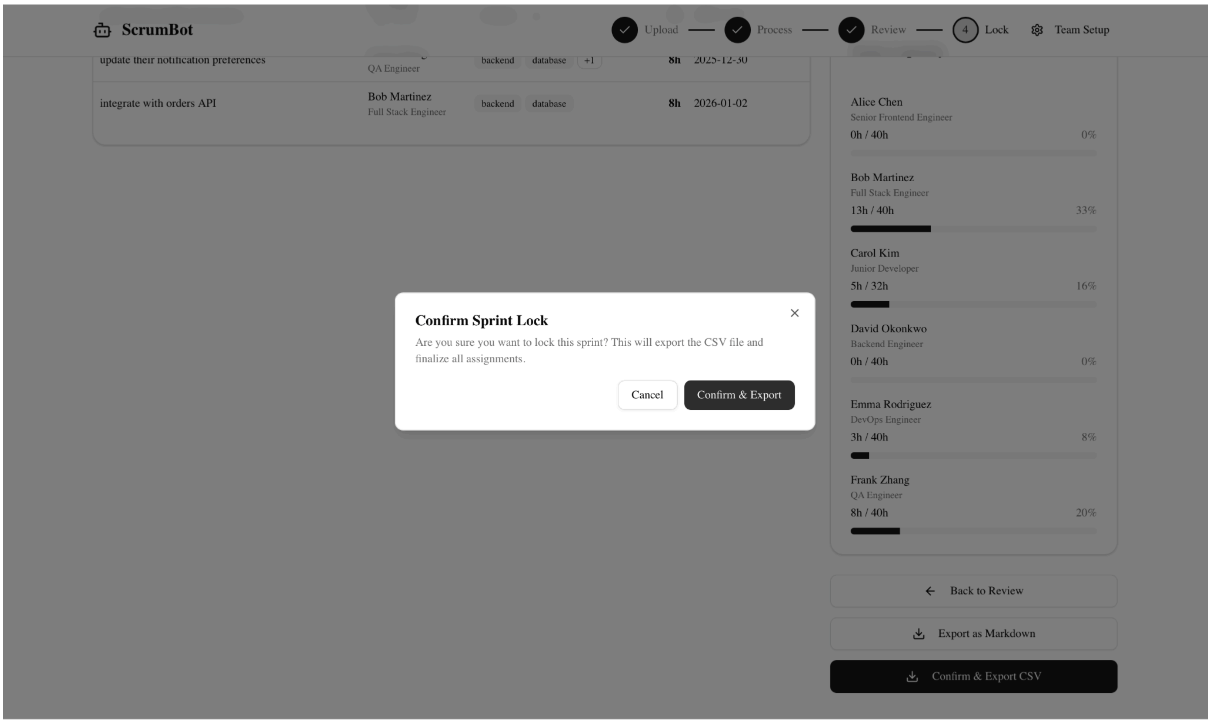
Team Capacity

Alice Chen
Senior Frontend Engineer
0h / 40h 0%

Bob Martinez
Full Stack Engineer
13h / 40h 33%

Carol Kim
Junior Developer
5h / 32h 16%

David Okonkwo
Backend Engineer
0h / 40h 0%



update their notification preferences | QA Engineer | backend database +1 | 8h | 2025-12-30

integrate with orders API | Bob Martinez Full Stack Engineer | backend database | 8h | 2026-01-02

Alice Chen
Senior Frontend Engineer
0h / 40h 0%

Bob Martinez
Full Stack Engineer
13h / 40h 33%

Carol Kim
Junior Developer
5h / 32h 16%

David Okonkwo
Backend Engineer
0h / 40h 0%

Emma Rodriguez
DevOps Engineer
3h / 40h 8%

Frank Zhang
QA Engineer
8h / 40h 20%

Confirm Sprint Lock

Are you sure you want to lock this sprint? This will export the CSV file and finalize all assignments.

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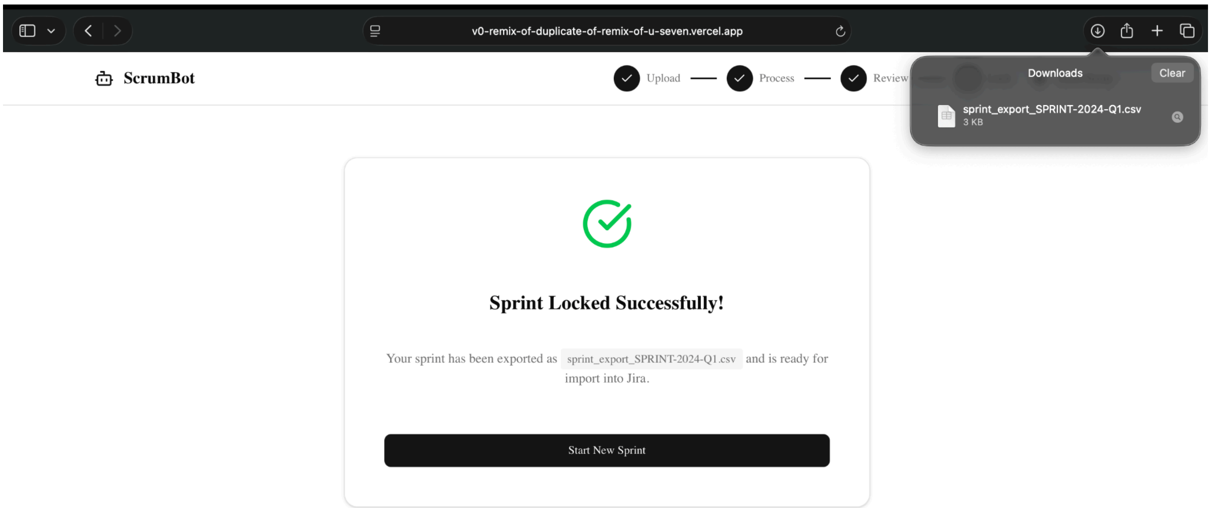
v0-remix-of-duplicate-of-remix-of-u-seven.vercel.app
ScrumBot
Upload
Process
Review
Downloads
Clear
sprint_export_SPRINT-2024-Q1.csv
3 KB
Start New Sprint

Sprint Locked Successfully!

Your sprint has been exported as `sprint_export_SPRINT-2024-Q1.csv` and is ready for import into Jira.

Appendix D — Prompt Templates

Story Extraction Prompt (simplified from repo)

```
const { text } = await generateText({
  model: groq("llama-3.1-8b-instant"),
  prompt: `You are an expert Scrum Master. Extract ALL user stories discussed in this sprint planning meeting.

CRITICAL: Extract EVERY story mentioned. Look for:
- Feature requests
- Bug fixes
- Technical improvements
```

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- Design changes

- Infrastructure work

- Any work item discussed

FORMAT each story as:

```
{
  "asA": "user role",
  "iWant": "what they want",
  "soThat": "the benefit",
  "risks": ["list risks mentioned"],
  "actionItems": ["list action items"],
  "labels": ["tag by type: frontend/backend/api/database/security/performance/ui/ux"],
  "evidence": [{"timestamp": "HH:MM:SS", "speaker": "name", "quote": "exact text"}],
  "estimate": 5
}
```

ESTIMATION GUIDE:

1-2 points: <4 hours (quick fix, simple change)

3-5 points: 1-2 days (standard feature)

8-13 points: 3-5 days (3-5 days (complex feature)

21 points: >1 week (needs breakdown)

TRANSCRIPT:

${transcriptText}

```
Return ONLY a JSON array with ALL stories. Extract at least 3-5 stories if they exist in the transcript.`,

  temperature: 0.2,

  maxTokens: 4000,

})
```

Owner Ranking Prompt

```
const { text } = await generateText({

  model: groq("llama-3.3-70b-versatile"),

  prompt: `You are an expert Scrum Master making optimal story assignments based on RAG (Retrieval-Augmented Generation) analysis.


STORY TO ASSIGN:

${storyContext}


TEAM MEMBERS (with complete context from knowledge base):

${memberContexts}


TASK:

1. First, identify the key skills and experience needed for this story

2. Rank each team member on four dimensions (0-100 scale):

   - COMPETENCE: How well their skills, experience, and past work match the story requirements

   - AVAILABILITY: How much capacity they have (higher score = more available)

   - GROWTH POTENTIAL: How well this story aligns with their learning goals

   - CONTINUITY: How similar this is to their recent successful work
```

```
3. Provide 3-5 concise justifications per member explaining your scores


SCORING GUIDELINES:

- Competence: Consider skill levels, recency of use, and relevant past work

- Availability: Higher scores for lower utilization rates and more available hours

- Growth Potential: Match story requirements with learning goals, but balance with competence

- Continuity: Reward similar recent work, especially if it was successful


${csvDataUsed ? "NOTE: You have access to comprehensive CSV data including skills, capacity, preferences, and detailed history." : "NOTE: Working with basic team data only."}


Respond ONLY with valid JSON in this exact format (no markdown, no code blocks):

{

  "requiredSkills": ["skill1", "skill2"],

  "rankings": [

    {

      "memberId": "member-1",

      "competence": 85,

      "availability": 90,

      "growthPotential": 70,

      "continuity": 80,

      "justification": ["reason 1", "reason 2", "reason 3"]

    }

  ]

}`,
  temperature: 0.3,

  maxTokens: 1500,

})
```