Team Velocity Analysis Across Three Sprints

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Velocity Analysis:

Sprint Number	Actual Velocity (Stories Completed)
Sprint 1	**5**
Sprint 2	**6**
Sprint 3	**9**

Sprint 1, 2, and 3

This report analyzes the team's velocity, measured by the number of User Stories successfully completed, across the last three sprints. The total product backlog included 15 initial stories, plus 5stories added throughout Sprints 2 and 3, resulting in a total scope of 20 User Stories, all of which were successfully completed by the end of Sprint 3.

Sprint Velocity Chart (User Stories Completed)

Sprint	Total Available Stories	Stories Completed (Velocity)	Change from Previous
Sprint 1	15 (Initial Scope)	**5**	N/A
Sprint 2	13 (10 backlog + 3 added)	**6**	↑ 1 story
Sprint 3	9 (7 backlog + 2 added)	**9**	↑ 3 stories

Analysis of Velocity Change

The data shows a positive, accelerating trend in velocity as the team ramped up and completed the entire 20-story scope by the project's conclusion. This trend, however, must

be viewed through the lens of bug complexity and a deliberate increase in quality standards.

Reason for Initial Low Velocity (Sprint 1):

The lower initial velocity (5 stories) was characterized by a learning curve and early technical complexity:

Initial Overhead:

Setting up the project, establishing CI/CD pipelines, and dealing with initial architectural decisions likely consumed significant time, limiting feature throughput.

Low Complexity Stories:

While some initial stories were low complexity, the overall lower velocity suggests the team was not yet operating at full efficiency. Analysis of Velocity Change (Sprint 2, Sprint 3) The team's velocity increased steadily, peaking in Sprint 3 (9 stories), driven by a strong closing push and specific mitigating factors:

Increased Quality of Delivery:

A deliberate and strategic shift was made to ensure that the quality of each user story increased as each sprint went by, as the product came to life. While this generally slowed the completion rate compared to a pure throughput goal, the team managed to improve process efficiency in parallel to achieve higher velocity.

Prolonged Bug Resolution (Mitigated):

Even though bugs took longer than expected to resolve in Sprints 2 and 3, the team clearly improved its bug-fixing and integration capacity over time. This suggests that while individual bugs were difficult, the processes for handling them such as dedicated bug-fix, better testing environments, or improved collaboration which became more effective, allowing a higher story count to be cleared by Sprint 3.

Team Synergy and Maturity:

The steady increase reflects maturing team dynamics, greater familiarity with the codebase, and efficient closure of outstanding work (9 stories completed in S3included all 7 stories carried over from S2).

Efficiency in Bug Resolution (Initial):

In contrast, the previous sprint's high velocity (which was now updated to 5, not 10) was limited by initial growing pains, not efficiency in bug resolution.

Conclusion

The team successfully completed all 20 stories in the product lifecycle by the end of Sprint 3, demonstrating excellent performance recovery and acceleration from the initial low velocity. The team effectively managed the trade-off between the increased time required for prolonged bug resolution and the commitment to a higher standard, ensuring the quality of each user story increased as the product came to life. The final high velocity of 9 stories shows strong execution and commitment to closing out the project scope successfully.