# Project Metrics

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This document defines the primary product and process metrics the team will track throughout the project, in addition to individual time and effort. These metrics are chosen for their relevance to our Agile methodology and the unique nature of our AI-driven code conversion tool.

## 1. Product Metric: Manual Intervention Rate (MIR)

This metric directly measures the quality and effectiveness of the code and documentation generated by our AI converter.

- **Description:** The Manual Intervention Rate measures the percentage of AI-generated artifacts (code files, user stories, etc.) that require manual correction by a developer after generation. A low MIR is the primary indicator of a successful and valuable product, as it directly reflects the tool's ability to reduce manual labor.
- **How to Measure:**
    1. **Establish Benchmark:** At the start of the project, the team will select two small but representative legacy code samples to serve as our standardized benchmark. These samples will be used for all subsequent MIR tests to ensure consistency.
    2. **Conduct Benchmark Test:** Every two sprints, a dedicated benchmark test will be performed. This involves running the two standardized legacy code samples through the latest version of our AI converter tool.
    3. **Manual Review:** A developer on the team will be assigned to manually review all artifacts generated during the benchmark test.
    4. **Classify Artifacts:** The reviewer will classify each generated artifact into one of four categories in a Jira custom field:
        - **Accepted (0% intervention):** The artifact is usable as-is.
        - **Minor Edits (25% intervention):** The artifact required small syntax, style, or logical fixes.
        - **Major Edits (75% intervention):** The artifact required significant refactoring or rewriting to be usable.
        - **Rejected (100% intervention):** The artifact was unusable and faster to create from scratch.
    5. **Calculate MIR:** The MIR for the benchmark run will be the average intervention percentage across all reviewed artifacts. This result will be tracked over time.
- **Goal:** To observe a consistent downward trend in the MIR for our standardized benchmark tests over the course of the project. This will provide concrete evidence that our prompt engineering and process refinements are improving the quality of the AI's output.

## 2. Process Metric: Sprint Velocity

This is a standard Agile metric that measures the team's productivity and helps improve planning predictability.

- **Description:** Sprint Velocity is the total number of story points for all user stories completed by the team during a single sprint. It is the fundamental measure of our team's rate of work.
- **How to Measure:**
  1. All work will be estimated in story points during Sprint Planning and tracked in Jira.
  2. At the end of each sprint, we will use Jira's built-in "Velocity Chart" or "Sprint Report" to automatically calculate the sum of story points for all user stories moved to the "Done" column.
- **Goal:** To establish a stable and predictable average velocity after the first 2-3 sprints. A stable velocity will allow us to accurately forecast our capacity for future sprints, leading to more reliable project planning and a better ability to manage expectations with our sponsor.