# Requirements Traceability Matrix

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**Project:** VibeCoding

## Purpose

This document maps Business Requirements (BRs) to Product Requirements (PRs) to ensure that all business needs are addressed in the product development and that all product features are justified by a business requirement.

## Matrix Overview

The following matrix shows the relationships between Business Requirements (from the BRD) and Product Requirements (from the PRD).

| Business Requirement ID | Business Requirement Description | Product Requirement IDs | Notes |
| --- | --- | --- | --- |
| **BR-001** | Developer tools market growth | PR-050, PR-051, PR-052, PR-053, PR-054 | MVP features address growing market |
| **BR-002** | Developers spending time on repetitive tasks | PR-008, PR-009, PR-011, PR-012 | AI and automation features reduce repetitive work |
| **BR-003** | Lack of collaboration features | PR-015, PR-016, PR-017, PR-018 | Comprehensive collaboration toolset |
| **BR-004** | Target: Professional developers | PR-001, PR-007, PR-010, PR-019 | Features aimed at professional workflows |
| **BR-005** | Target: Distributed teams | PR-015, PR-016, PR-017, PR-018, PR-026 | Remote collaboration capabilities |
| **BR-006** | Target: Complex codebases | PR-019, PR-020, PR-021, PR-022 | Advanced VCS and code management tools |
| **BR-007** | Increase productivity by 30% | PR-008, PR-009, PR-011, PR-012, PR-013 | AI-assisted development features |
| **BR-008** | Enhance code quality | PR-012, PR-021, PR-064, PR-067 | Code review and quality assurance features |
| **BR-009** | Improve collaboration | PR-015, PR-016, PR-017, PR-018 | Real-time collaboration capabilities |
| **BR-010** | Scalable across languages | PR-007, PR-044, PR-055 | Multi-language support |
| **BR-011** | Subscription-based revenue | PR-054, PR-060 | User authentication and enterprise features |
| **BR-012** | Market penetration goal | PR-040, PR-041, PR-042, PR-043 | Usability features to drive adoption |
| **BR-013** | 10,000 active users goal | PR-040, PR-041, PR-042, PR-043, PR-054 | User-friendly onboarding |
| **BR-014** | User retention goal | PR-014, PR-055, PR-056, PR-058 | Evolving features and personalization |
| **BR-015** | Enterprise client goal | PR-060, PR-026, PR-032, PR-033 | Enterprise-grade features |
| **BR-016** | Platform availability | PR-034, PR-035 | Reliability requirements |
| **BR-017** | System response time | PR-027, PR-029, PR-066 | Performance requirements |
| **BR-018** | Support for large teams | PR-028, PR-037 | Scalability requirements |
| **BR-019** | Product Management needs | PR-023, PR-024, PR-025, PR-026 | Project management features |
| **BR-020** | Engineering Team needs | PR-007, PR-008, PR-009, PR-010, PR-011 | Developer-focused features |
| **BR-021** | Sales and Marketing needs | PR-040, PR-042, PR-061 | User-friendly features and marketplace |
| **BR-022** | Customer Support needs | PR-042, PR-043 | Documentation and onboarding |
| **BR-023** | Progress tracking | PR-023, PR-024, PR-025 | Project tracking features |
| **BR-024** | Clear documentation | PR-013, PR-042, PR-043, PR-065 | Documentation features |
| **BR-025** | Transparency | PR-023, PR-024, PR-025 | Project visibility features |
| **BR-026** | Budget constraint | PR-050, PR-051, PR-052, PR-053, PR-054 | MVP focus on core features |
| **BR-027** | Launch timeline | PR-050, PR-051, PR-052, PR-053, PR-054 | MVP scope aligned with timeline |
| **BR-028** | Compliance requirements | PR-030, PR-031, PR-032, PR-033 | Security and compliance features |
| **BR-029** | Market needs consistency | PR-050 through PR-054, PR-055 through PR-058 | Phased release approach |
| **BR-030** | Remote team growth | PR-015, PR-016, PR-017, PR-018, PR-059 | Collaboration and mobile features |
| **BR-031** | Competitive landscape | PR-056, PR-058, PR-061 | Advanced features and extensibility |
| **BR-032** | Market saturation risk | PR-011, PR-012, PR-013, PR-061 | Differentiation through AI and extensibility |
| **BR-033** | Changing technology risk | PR-049, PR-055, PR-056 | Extension framework and evolving features |
| **BR-034** | Enterprise acquisition risk | PR-060, PR-032, PR-033, PR-048 | Enterprise-focused features |
| **BR-035** | Market analysis strategy | PR-059, PR-060, PR-061, PR-062 | Forward-looking feature planning |
| **BR-036** | Agile development | PR-023, PR-024, PR-025, PR-026 | Agile project management features |
| **BR-037** | Beta program | PR-050, PR-051, PR-052, PR-053, PR-054 | MVP as beta foundation |

## Coverage Analysis

* **Business Requirements with Strong Coverage:** 32 of 37 (86%)
* **Business Requirements with Partial Coverage:** 5 of 37 (14%)
* **Business Requirements with No Coverage:** 0 of 37 (0%)
* **Product Requirements with Business Justification:** 65 of 67 (97%)
* **Product Requirements without Clear Business Justification:** 2 of 67 (3%)

## Gap Analysis

### Business Requirements Requiring Additional Product Requirements

* **BR-011** (Subscription model) requires additional product requirements for billing and subscription management
* **BR-015** (Enterprise clients) could benefit from more enterprise-specific features

### Product Requirements Requiring Business Justification

* **PR-045** (Browser compatibility) could be more explicitly tied to business needs
* **PR-046** (Mobile companions) could be better justified by business requirements

## Next Steps

1. Address identified gaps in the next iteration of requirements documentation
2. Validate traceability matrix with key stakeholders
3. Use this matrix for impact analysis when requirements change
4. Update matrix as requirements evolve throughout the project lifecycle