**BUSINESS REQUIREMENTS   
DOCUMENT TEMPLATE**

# PROJECT DETAILS

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| PROJECT NAME | | |
| **Construction Dynamic Project** | | |
| CREATOR | | |
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| DOCUMENT NO. | DATE | VERSION NO. |
| 01 | 04-04-2025 | 1.0 |

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| 1. EXECUTIVE SUMMARY SNAPSHOT |
| Provide an executive summary (overview of your business requirements) here. Your executive summary should be a “snapshot” of the purpose of your business requirements, including a brief description of any analysis, findings, project details, scope, business drivers, proposed process, current process, and functional requirements. An executive summary provides an overview of a larger document or of research and is usually the first thing your reader will see. Here are the questions you should answer when writing your business requirements executive summary:  - What is the goal (purpose) of this business requirements document (BRD)?  - Who is the audience for this business requirements document? |
| The main goal of dynamic construction project is to successfully deliver a project that meets the owner's expectations while adhering to budget and time constraints, requiring flexibility and adaptability to unforeseen circumstances. Dynamic construction projects often involve integrating advanced technologies, fostering team collaboration, and maintaining clear communication among stakeholders to address unexpected challenges effectively. Ensuring the construction meets the required quality standards and specifications is crucial.  The target audience for a construction dynamic project includes clients, design teams, contractors, project managers, and other stakeholders involved in the construction process. |

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| 2. PROJECT DESCRIPTION |
| In this section, describe the project for which you are writing this business requirements document. Describe the project’s purpose, what the current process/solution is for the project, what the challenges are, and why you need to undertake the project. |
| The dynamic approach in construction projects is to enable quick adaptation to changing circumstances and unforeseen events, ensuring projects remain on track and within budget despite real-time challenges.  The construction projects rely on traditional methods that often lead to inefficiencies in planning, resource allocation, and execution. Manual tracking of project progress, outdated scheduling techniques, and fragmented communication among stakeholders contribute to delays and budget overruns.  Dynamic construction projects present numerous challenges, including budget overruns, Project delays, delays, poor communication, safety and compliance, and a lack of skilled labor, all of which can impact project timelines, costs, and overall success.  Construction businesses to manage complexities and improve efficiency by centralizing project information, streamlining processes, and enabling data-driven decision-making. |

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| 3. PROJECT SCOPE | |
| Provide a high-level description of the project’s scope, including a list of project-specific goals, tasks, deliverables, costs, deadlines -- everything that is “in” and “out” of scope for the project. This information provides team members with guidelines for the scope of the project, so they can plan and resource accordingly. | |
| The project scope include things like project timeline, milestones, stages, team, and any other information that will give construction team a clear and concise understanding and direction of the project. It also includes the list of construction obligations, as well as work activities that all contractors, subcontractors, and suppliers are obligated to do. | |
| IN-SCOPE ITEMS | OUT-OF-SCOPE ITEMS |
| Item 1: Site Preparation | Item 1: Land Acquisition |
| Item 2: Foundation Work | Item 2: Interior Decoration |
| Item 3: Structural Construction | Item 3: Off-Site Infrastructure |
| Item 4: Utilities Installation | Item 4: Third-Party Approvals |

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| 4. BUSINESS DRIVERS | |
| Enter the reasons (i.e., business drivers) why your business is initiating the project. In short, Why are you undertaking the project? Examples might include the following: legal requirements, cost savings with a more efficient practice, updated import/export laws, improved efficiency, improved sales, etc. | |
| **Business Driver 1:** Regulatory Compliance | Ensuring the project meets all legal and regulatory requirements, such as zoning laws, building codes, and environmental regulations. Compliance reduces the risk of fines, legal disputes, and project delays. |
| **Business Driver 2:** Cost Efficiency & Budget Optimization | Implementing innovative construction methods and technology to minimize costs while maintaining quality. This includes material optimization, labor management, and reducing waste. |
| **Business Driver 3:** Enhanced Project Efficiency & Timelines | Adopting dynamic project management techniques like Agile or Lean Construction to improve workflow, reduce bottlenecks, and ensure timely project completion. |
| **Business Driver 4:** Market Demand & Competitive Advantage | Addressing current market trends, increasing infrastructure demand, or client-specific needs to stay competitive. A well-executed project can enhance the company's reputation and attract future contracts. |

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| 5. PRESENT PROCESS UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO |
| Provide details of your current, prevailing process for addressing the primary issue your project attempts to solve. Feel free to include diagrams, flowcharts, or other visuals to illustrate the current process. |
| The current process for managing construction projects is predominantly manual and fragmented, relying on basic tools such as spreadsheets, paper-based records, and verbal communication. Project tracking is handled through individual efforts, which often result in delayed updates and a lack of real-time visibility into milestones and overall progress. Resource allocation is managed informally, leading to frequent inefficiencies, such as overstocking or stockouts, and procurement delays. Tasks are assigned verbally or through informal channels, making it difficult to monitor progress and ensure accountability. Budget planning and tracking are scattered across multiple systems, making it hard to maintain financial oversight and leading to discrepancies between planned and actual costs. Reporting and analytics are performed manually, often with outdated information, which delays critical decision-making and prevents effective evaluation of productivity and resource utilization. |

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| 6. PROPOSED PROCESS UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO |
| Provide details of the proposed process for addressing the primary issue your project attempts to solve. Feel free to include diagrams, flowcharts, or other visuals to illustrate the proposed process. For this process, we recommend that you use the same illustrative tool/style that you used for your present/current process (above). |
| The proposed process for addressing the primary issues of construction management revolves around implementing a dynamic, integrated system to streamline operations and eliminate inefficiencies. The system would begin with a centralized platform for managing projects, enabling users to create, update, and track construction progress in real time. Resource allocation would be automated, with modules to monitor material and equipment availability and dynamically adjust to project needs. Tasks would be assigned digitally, using a dashboard that allows managers to set deadlines, priorities, and monitor completion progress. Budget management would be integrated, providing financial tracking features that compare actual expenditures against planned budgets and generate alerts for potential overruns. Reporting and analytics would be automated, delivering insights into productivity, resource utilization, and financial performance at regular intervals. Additionally, the system would incorporate a notification mechanism for task updates, deadline reminders. By integrating these functionalities, the proposed system aims to enhance project visibility, optimize resources, improve accountability, and facilitate decision-making in a dynamic and efficient manner. |

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| 7. FUNCTIONAL REQUIREMENTS UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO |
| Detail the project’s functional requirements by enumerating the ways in which the current process addresses the issue and by describing the functional requirements necessary to make the project successful. |
| 1. User Authentication and Role Management:  - Implement a robust user management system with role-based access control to ensure data security and relevant access for admins, managers, and workers.  2. Dynamic Project Creation and Updates:  - Allow users to create projects dynamically, set timelines, budgets, and resources, and update details as changes occur.  3. Real-Time Progress Tracking:  - Integrate dashboards that display real-time updates on project progress, including task completion and resource utilization.  4. Resource Allocation and Tracking:  - Develop modules to monitor material, equipment, and labor availability, and allocate resources dynamically based on project needs.  5. Task Assignment and Monitoring:  - Enable managers to assign tasks to workers via the system, set deadlines, and monitor progress using visual tracking tools like Gantt charts.  6. Budget Planning and Oversight:  - Implement financial management features to track expenses, compare actual costs against the budget, and generate alerts for overspending.  7. Notification System:  - Create automated notifications for task deadlines, updates, budget overruns, and other critical project milestones.  8.Data Analytics and Reporting:  - Provide analytics tools that generate insights into productivity, resource efficiency, and financial performance.  - Include automated reporting features for weekly or monthly summaries. |

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| – PRIORITY | | |
| Use the following priority table. It allows you to apply a ratings system to your requirements, so you have the visibility (into the value, status, and description of each requirement) that is necessary for determining whether a particular requirement is essential to project success. | | |
| **VALUE** | **STATUS** | **DESCRIPTION** |
| 1 | Immediate | Core functionalities such as user authentication, project creation, task assignment, and resource tracking. |
| 2 | High | Advanced features like real-time progress updates, detailed analytics, and role-based access control. |
| 3 | Moderate | Additional features like automated notifications, calendar integration, or report generation for insights. |
| 4 | Low | Enhancements such as customizable themes, aesthetic dashboards, or minor UX improvements. |
| 5 | Prospective | Future extensions like integration with IoT devices for live equipment tracking or AI-based project predictions. |

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| – CATEGORIES (RC1) | | | |
| In this section, detail the project’s functional use; break down your project’s requirements into categories so that they’re easy to understand. You can duplicate this section for any successive project categories as needed. The following table includes a unique ID for each requirement, the details of each requirement, the priority of each requirement, and the name of the person who is driving or is responsible for the requirement. Include descriptions of how the current process addresses the issue. Also include the functional requirements necessary to achieve success. | | | |
| **ID** | **REQUIREMENT** | **PRIORITY** | **RAISED BY** |
| FR1 | Real-time project tracking dashboard | Immediate | PM TeamFR2 |
| FR2 | Cost estimation and tracking module | High | Finance Dept |
| FR3 | Mobile accessibility for field workers | High | Site Managers |
| FR4 | Automated approval workflows | Moderate | Engineering |
| FR5 | Integration with existing BIM software | High | IT Team |

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| 8. NON-FUNCTIONAL REQUIREMENTS UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO | |
| Detail all non-functional requirements (NFRs) of the project, including such things as features, system behavior, and project characteristics that relate to user experience. | |
| **ID** | **REQUIREMENT** |
| 1 | Performance Requirements: The system should handle simultaneous access by multiple users without noticeable lag. |
| 2 | Scalability: The system should be able to support the addition of new projects, users, and tasks without requiring major architectural changes. |
| 3 | Reliability and Availability: The system should be able to support the addition of new projects, users, and tasks without requiring major architectural changes. |
| 4 | Security: Ensure role-based access control so users only see and interact with relevant data. |
| 5 | Compliance: Adhere to legal regulations related to construction and labor management. |

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| 9. GLOSSARY UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO | |
| For easy reference, enter any terms, abbreviations, and/or acronyms that you include in this document. | |
| **TERM/ABBREVIATION** | **EXPLANATION** |
| BIM | Building Information Modeling |
| API | Application Programming Interface |
| PM | Project Management |
| ROI | Return on Investment |
| BRD | Business Requirements Document |

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| 10. REFERENCES UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO | |
| Provide links to all referenced resources (websites, documents, etc.) throughout this document. | |
| **NAME** | **LOCATION** |
| 1. Spring Boot Documentation | https://spring.io/projects/spring-boot |
| 2. MySQL Reference Manual | https://dev.mysql.com/doc/refman/8.0/en/ |
| 3. Thymeleaf Documentation | https://restfulapi.net |
| 4. Construction Project Best Practices | https://www.thymeleaf.org/doc/tutorials/3.0/usingthymeleaf.html |
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| 11. APPENDIX |
| Include any additional information for reference, e.g., process details, analysis results, studies, third-party examples, etc. |
| 1. Process Details: Workflow diagrams or flowcharts for the system architecture 2. Database Schema: Include a detailed schema design for tables such as , , , , etc. 3. Analysis Results: Results from user interviews or surveys conducted to gather requirements. 4. Third-Party Examples: References to existing construction management tools or applications for comparative analysis. 5. Technical References: Integration guides for external APIs or modules incorporated in the project. |