SUMATOSOFT

Complete Software Development Process in 14 Steps

Foreword

The software development process is a structured approach used by individual software developers or public companies to transform an idea into a functional product.

Like manufacturing a table requires a set of actions – selecting materials, crafting components, and assembling – the software development process involves a series of well-known steps. These steps include planning, designing, coding, testing, and deployment.

Although the path is well-defined, the nuances of the process differ from company to company. The gap between a professional and unprofessional software provider hides in this difference in the guidelines the company follows, in the quality standards it adheres to, and in the management practices it uses.

That's why it's good to examine one company's practical approach instead of just reading theory. Let's dive in.
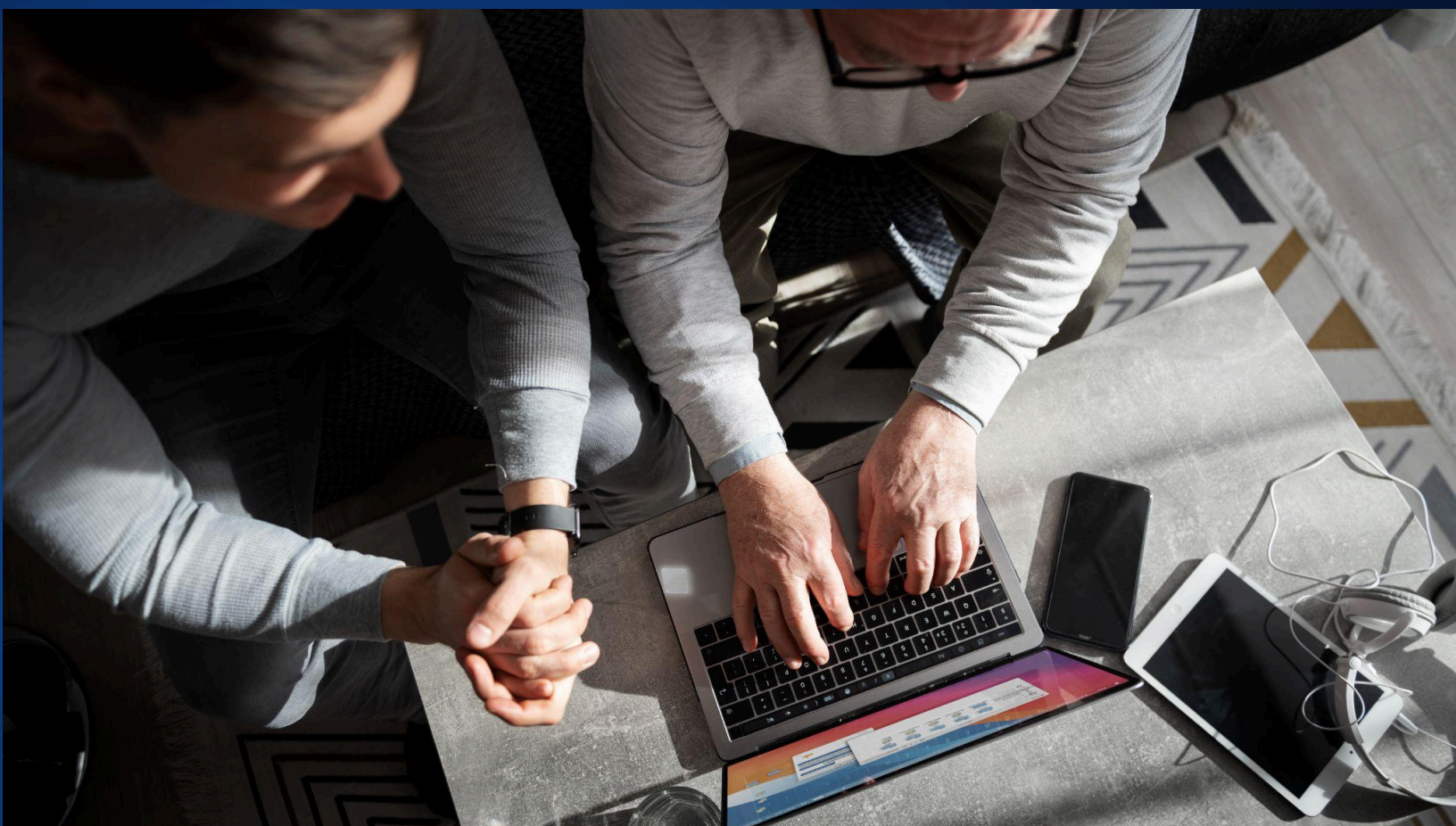
SumatoSoft's Development Process

Our process is organized into 8 steps (or phases), one of which is iterative and includes several sub-steps.
In each phase, we'll outline what you will experience and contribute alongside the core activities our team performs behind the scenes to drive the project forward. These sections are called "Visible to the Client" and "Behind the Scenes" appropriately.
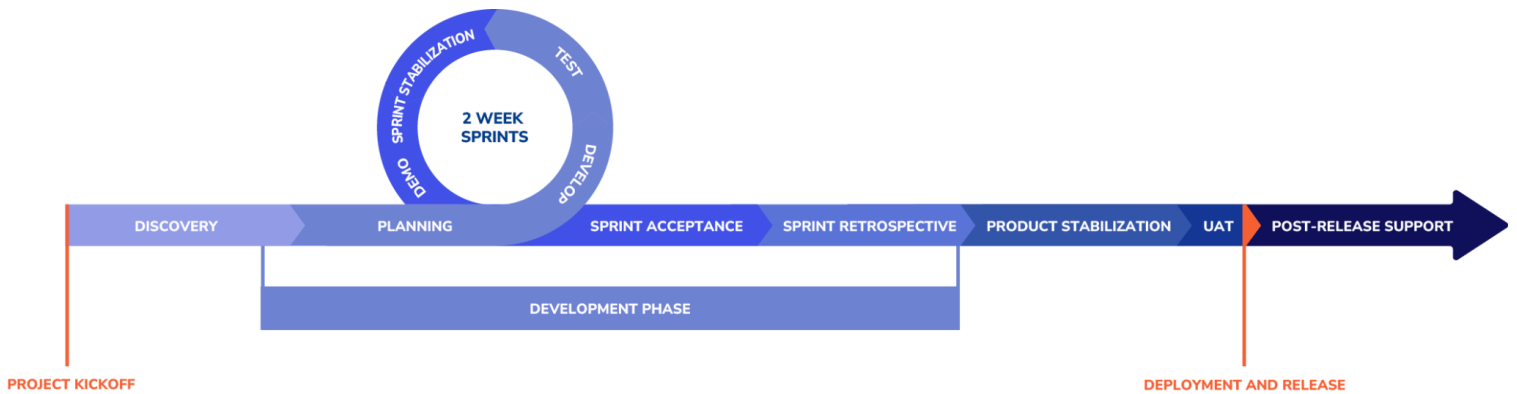
#1 Project Kickoff
mandatory

The goal:
Establish a shared understanding and solve organizational issues
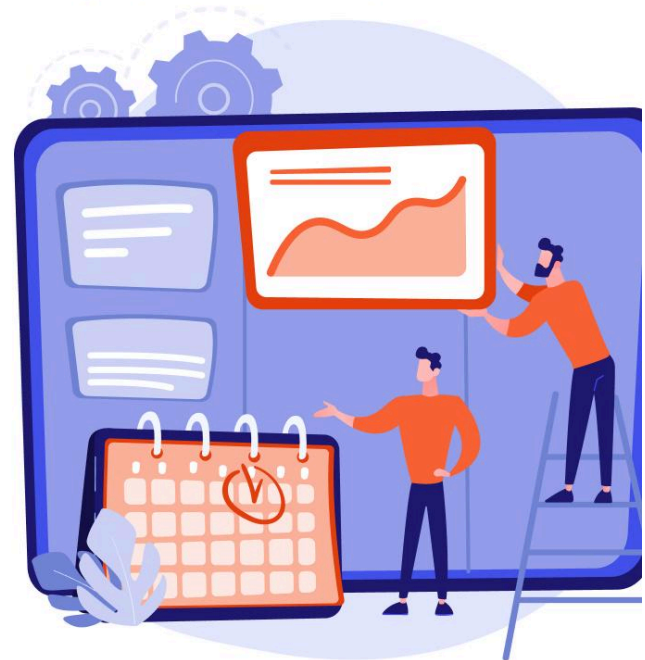
Main actors:
Project Manager (PM)

Timeline:
1 day

Visible to Client:
An online call introduces the team, aligns on goals, clarifies stakeholder roles, sets communication processes, and outlines tools and project scope. Follow-up email summarizes agreements.

Behind the scenes:
The PM organizes project management tools and briefs the team about the project details.

#2 Discovery
optional

The goal:
Align business and user requirements with a documented vision of the future solution.

Main actors:
Business Analyst (BA), UI/UX Designer, Software Architect, Project Manager (PM)

Timeline:
5–8 weeks

Visible to Client:
Frequent discussions with BA and UI/UX Designer to clarify requirements, review prototypes, and gather feedback. Deliverables include prototypes, requirement documents, a high-level backlog, and approval of the system's structure and tech stack.

Behind the scenes:
BA identifies requirements using interviews and workshops. The UI/UX Designer creates mockups and prototypes based on research. The Software Architect defines the system's structure and technical stack, while PM organizes findings, identifies risks, and drafts plans to prepare for development. Initial planning includes setting up milestones and outlining QA strategies.
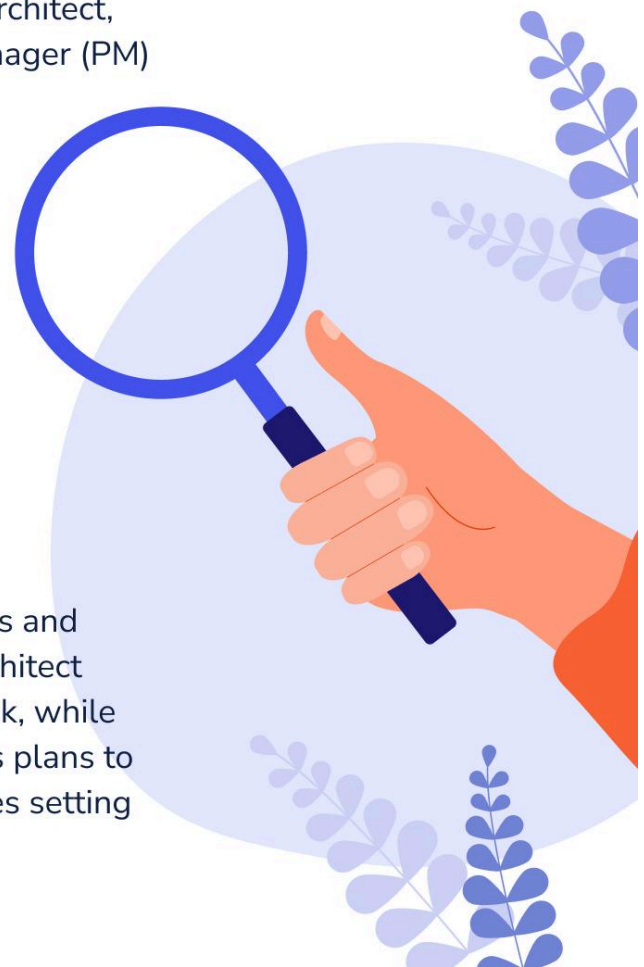
#3 Development Phase, Step 0 - Sprint 0
optional

The goal:
Prepare the necessary assets to start development and establish activities to maintain control over the process

Main actors:
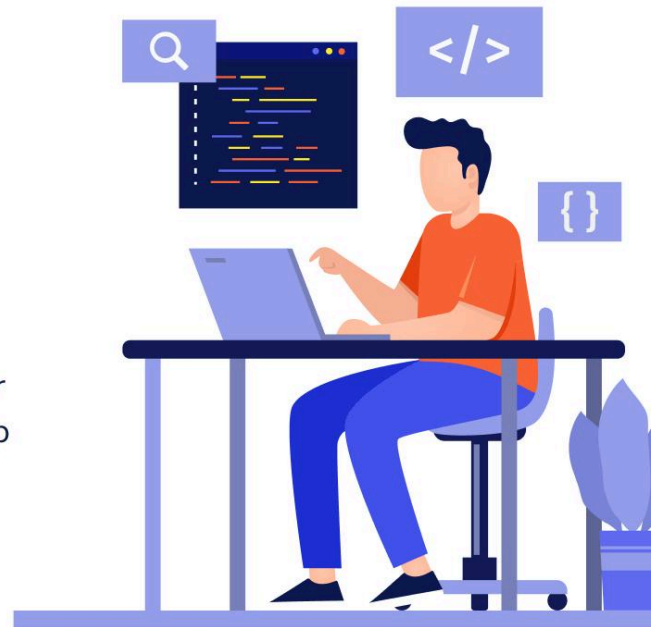Project Manager (PM), Business Analyst (BA), Tech Lead, UI/UX Designer

Timeline:
Up to 1 month

Visible to Client:
Approve designs and requirements for the first sprint, provide credentials for third-party services and internal systems, and supply necessary assets. PM sets up regular calls, milestones, demo days, QA strategies, and progress-tracking tools.

Behind the scenes:
PM drafts project plans, BA and UI/UX Designer prepare next sprint assets, and the team sets up DEV, QA, DEMO, and PROD environments for code progression. Infrastructure, including servers and databases, is configured with IaC tools to ensure security and monitoring.

#3 Development Phase, Step 1 - Planning
mandatory

The goal:

Support and monitor the development process while ensuring readiness for upcoming sprints.

Main actors:

Project Manager (PM), Business Analyst (BA), Tech Lead, UI/UX Designer

Timeline:

Ongoing activity that repeats within each sprint.

Visible to Client:

Approve designs and requirements for the sprint. Provide all necessary assets for the dev team to operate. Participate in sprint planning meetings and regular calls. At the end of each sprint, you receive a progress report, QA testing report, and updates on alignment with the budget, timeline, and scope.

Behind the scenes:

The PM coordinates sprint planning meetings, and the Tech Lead sets up and maintains DEV, QA, DEMO, and PROD environments for code progression, ensuring they are secure and configured with necessary IaC tools. BA and the UI/UX Designer refine and validate sprint assets. The BA breaks down the requirements into detailed development tasks for the team to implement.

#3 Development Phase, Step 2 - Coding
mandatory

The goal:
Deliver a set of functions that will increment the final product

Main actors:
Developers, Tech Lead, Project Manager (PM)

Timeline:
Two weeks per sprint

Visible to Client:
Participation decreases unless a technical specialist from your side is involved. Your role involves handling change requests with PM/BA and checking progress via weekly updates from the PM. Updates cover risks, timelines, and sprint progress.

Behind the scenes:
Developers transform requirements and designs into code using Git for version control. The Tech Lead ensures code quality and monitors the team. The PM orchestrates the process, tracks progress, handles risks, and prepares for upcoming sprints. The team holds daily stand-ups to align tasks and address blockers. The UI/UX Designer continues working on interfaces and ensures alignment with the initial design.

#3 Development Phase, Step 3 - Testing
mandatory

The goal:
Ensure developed features meet project quality agreements and are ready for Client review

Main actors:
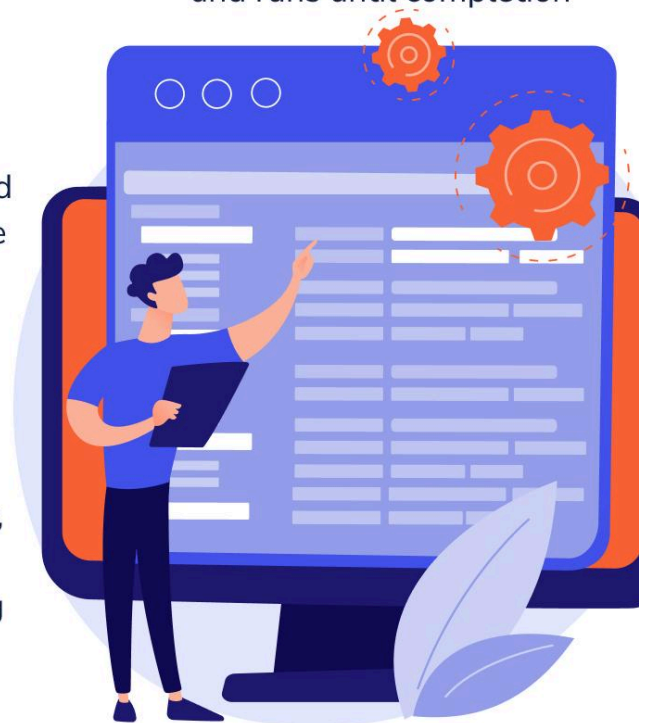Quality Assurance (QA) specialists

Timeline:
Starts at the end of the first week of the sprint and runs until completion

Visible to Client:
Active participation is optional. You can monitor testing progress in real-time via Jira or integrated tools. Adjustments to the testing strategy can be made upon request.

Behind the scenes:
QA specialists conduct manual testing first, followed by automated testing using tools like Selenium and TestNG. Testing includes usability, performance, and other types, using over 20 specialized tools. QA logs issues in Jira, enabling developers to resolve them efficiently.

#3 Development Phase, Step 4 - Sprint Stabilization
optional

The goal:
Achieve a stable, bug-free state of the product

Main actors:
Developers, Quality Assurance (QA) specialists

Timeline:
Second week of the sprint

Visible to Client:
No direct involvement is required from your side.

Behind the scenes:
Developers fix bugs identified during testing, while QA specialists re-test features and prepare automation scripts for future regression testing using tools like Cypress.js. Once stable, features are deployed to the DEMO environment for review. QA documentation is prepared, summarizing defects and testing outcomes.

#3 Development Phase, Step 5 - Demo
mandatory

The goal:

Provide a demo of completed work and gather Client feedback

Main actors:

Quality Assurance (QA) specialists, Project Manager (PM)

Timeline:

10 minutes to 1 hour, average 30 minutes

Visible to Client:

A demo meeting where QA specialists showcase new features and explain their functionality. This is an opportunity to provide feedback about the product. Formal acceptance occurs separately later on.

Behind the scenes:

QA specialists perform smoke testing in the DEMO environment to ensure a smooth and error-free demo experience.
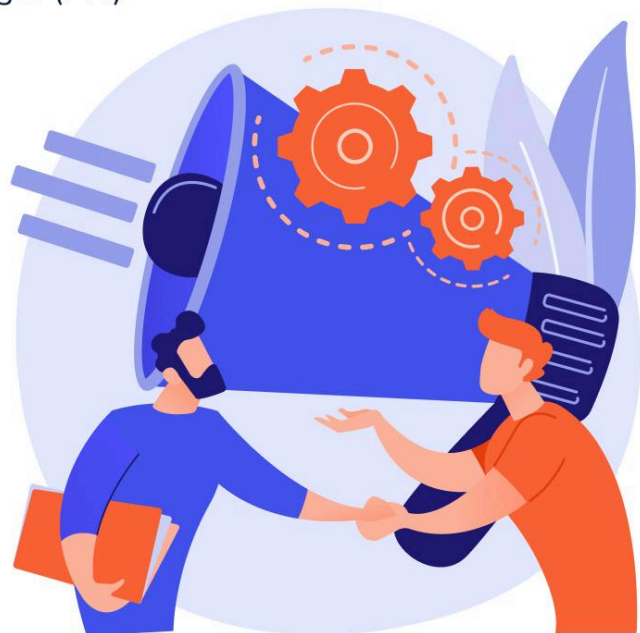
#3 Development Phase, Step 6 - Sprint Acceptance
mandatory

The goal:

Obtain confirmation that the completed work meets Client expectations and acceptance criteria

Main actors:

Project Manager (PM)

Timeline:

Duration depends on Client availability

Visible to Client:

You review the sprint results demonstrated in the demo and provide feedback. To do so, you'll have progress reports, demo environment access, a risk register, timesheet reports, and QA results. You can submit a change request if adjustments are needed.

Behind the scenes:

The PM monitors the status of each previous sprint and ensures that you review and approve all deliverables. When necessary, the PM sends reminders via calls or emails to avoid delays in officially closing the sprint and obtaining timely feedback.
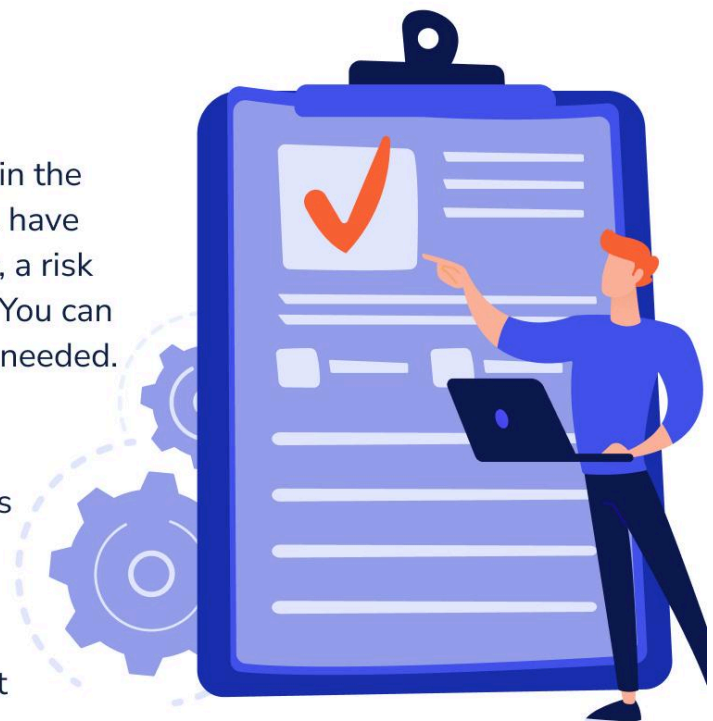
#3 Development Phase, Step 7 - Sprint Retrospective
internal

The goal:

Collect team member feedback and identify areas for improvement for the next development iterations. Irregular activity

Visible to Client:

This activity is purely internal and does not require your participation.

Behind the scenes:

The team discusses the previous sprint, focusing on successes and challenges. Feedback is collected through open discussion or pre-meeting questionnaires, addressing communication, task efficiency, and satisfaction. Brainstorming sessions generate action items for improvement, which are logged as tasks in Jira or individual to-do lists.

Main actors:

The whole team

Timeline:

Up to 1 hour

#4 Product Stabilization
mandatory

The goal:
Eliminate remaining issues
to ensure a stable and reliable
app version

Main actors:
Developers,
Quality Assurance
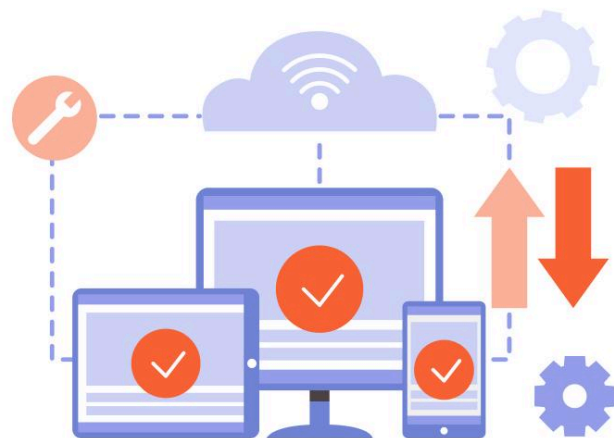(QA) Specialists

Timeline:
2–6 weeks
(6–8 weeks for
complex projects)

Visible to Client:
No activity is required during this phase.

Behind the scenes:
The team cleans and optimizes the code,
fixes minor bugs, and performs performance,
security, regression, and sanity tests.
Refactoring may be conducted if needed.
Once complete, the final build is delivered
for User Acceptance Testing (UAT).

#5 UserAcceptance Testing (UAT)
mandatory

The goal:
Confirm that the product meets business needs and is ready for production

Main actors:
Project Manager (PM), Quality Assurance (QA) specialist, Developers

Timeline:
Around 2 weeks (depends on the Client's responsiveness)

Visible to Client:
PM provides the demo environment, approved test scenarios, and acceptance criteria. You validate the product by testing each scenario in a real-world context, reporting any issues for prompt resolution. Unexpected scenarios are discussed and approved if needed.

Behind the scenes:
QA verifies any identified issues, while Developers address them. The QA team conducts a final regression test to ensure fixes do not impact other functionalities.
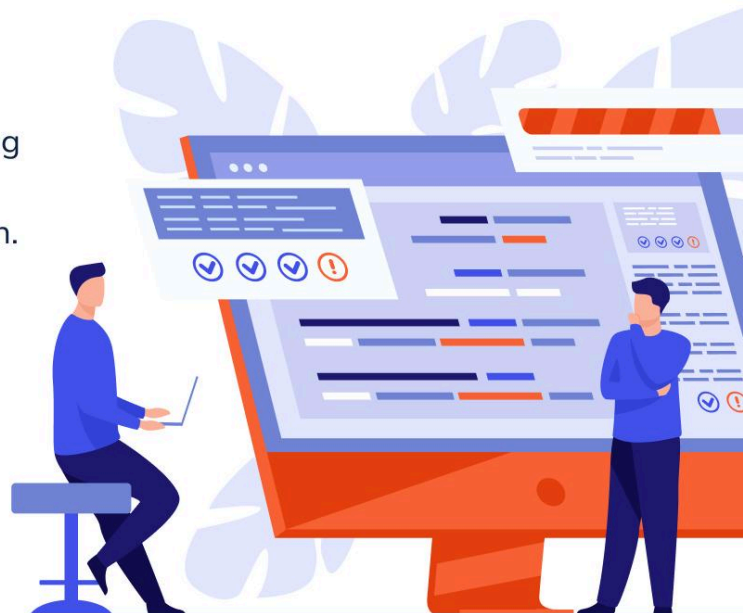
#6 Deployment or Release
mandatory

The goal:
Make the product accessible to end users

Main actors:
Developers, DevOps, Project Manager (PM)
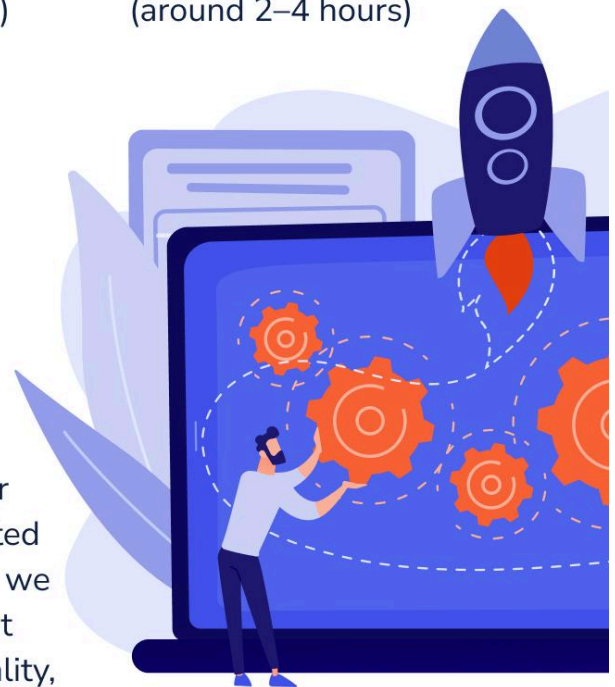
Timeline:
Completed in a day (around 2–4 hours)

Visible to Client:
The deployment process is managed entirely by our team. The PM will notify you once the product is live and ready for use.

Behind the scenes:
The team deploys the final build to the production environment, using strategies like blue-green deployment, canary release, rolling deployment, or feature toggles to ensure zero downtime. Automated tests confirm stability before release. Additionally, we conduct project analyses to refine our development processes, reviewing scope, budget, timelines, quality, and value creation.

#7 Post-Release Support
mandatory

The goal:
Ensure the product's stability and performance

Main actors:
Part-time Developers, Business Analyst (BA), Quality Assurance (QA), Project Manager (PM)

Timeline:
As long as you wish to maintain and develop the product

Visible to Client:
Report bugs, approve library and technology updates, and approve bug fixes. We provide regular reports on bug fixes, project status, and technical health.

Behind the scenes:
The team is scaled down to essential specialists who monitor performance, address issues, update technologies, and develop new features as needed.

In Conclusion

This document outlines the 14 phases of our project workflow. We've carefully honed this process since 2012, eliminating inefficiencies and introducing new methods and tools. Each modification was made to ensure the successful delivery of a high-quality, stable, and user-ready product while building transparent collaboration between our team and yours.

We don't claim this process to be perfect since such a statement would halt our further growth. However, we are confident that this process can benefit businesses and will do our best to refine it even better. We look forward to supporting you at every stage of your product's journey. Should you have any questions, our team is always [here to assist](#)!

SUMATOSOFT

Thank you for reading!

Any questions? Drop us a line!

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