HOW TO AVOID THE PITFALLS OF TRADITIONAL REVIEWS AND APPROVALS

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MODERN
Requirements

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The topic of requirements reviews and approvals is one which we cover in-depth with several customers, clients, and even with our internal teams daily. The reason this topic is so common is because wherever you encounter requirements, there is also the need for a requirements approval to take place.

Requirements approval is a mandatory part of every team.

Many strictly Agile-minded teams will cringe at the thought of a formal, overly-complicated review process, and tend to favor a less formal approach to reviewing and approving requirements – if they even hold reviews at all.

The problem, however, is that a less formal review process is typically no faster than its formal counterpart and informal reviews do not implicitly remove the need for a reviewal process either.

The truth is that every team, including strict Agile teams, need a review process.

But every team needs a review process that is quick, collaborative, and which effectively allows teams to facilitate changes in requirements. Otherwise, teams will abandon a review in the moments they need it most.

Teams need a requirements review process that does not feel like a roadblock, but which instead provides an asynchronous workflow that is quick and collaborative.

In this whitepaper, we discuss the pitfalls of the leading methods of requirements review and discuss how those challenges can be solved with the right tooling.

WHAT IS A REVIEW / APPROVAL PROCESS FOR?

A good Review / Approval process offers two key benefits:

1 Increase Collaboration with Stakeholders

The Review / Approval process allows teams to facilitate changes in requirements.

It is a process which allows teams to synchronize their intentions with Stakeholder expectations and drive toward a more accurate solution, system, or deliverable.

## 2 Facilitate Collaboration between Team Members

Reviews provide teams with an opportunity to communicate with each other on what the outcome of a requirement should be. A well-established Review/Approval process allows teams to address what the outcome of a requirement should be, as well as facilitate discussions on how that outcome fits within the context of what is being created and delivered.

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In each scenario, the Review / Approval process should be implemented in such a way as to move requirements through their lifecycle effectively. Whether it is moving requirements into an "approved" or "completed" state with Stakeholders, or by moving a requirement from "new" to "active" with your team, reviews should help your team make this process both faster and easier.

So, what is a Review / Approval process for?

A Review / Approval process is the medium through which requirements change and the process in which sign-offs occur. Reviews are used to communicate with **internal teams** and **external Stakeholders**, and are used by nearly all teams who interact with requirements.
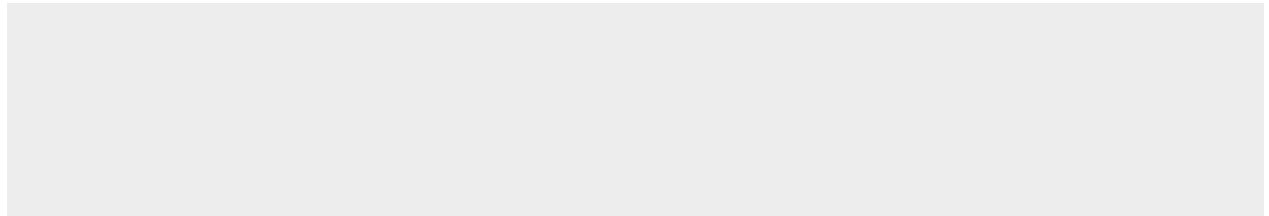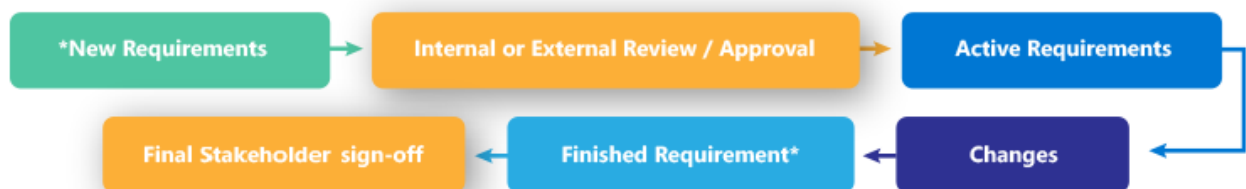
FORMAL VS. INFORMAL REVIEWS:

WHEN SHOULD A REVIEW OCCUR?

Reviews are typically built at different times throughout the project lifecycle.

Formal Review

*New Requirements → Stakeholder Review / Approval → Active Requirements

Final Stakeholder sign-off to Active Requirements* ← Finished Requirement ← Internal or External / Approval ← Changes

Informal Review

*New Requirements → Internal or External Review / Approval → Active Requirements

Final Stakeholder sign-off ← Finished Requirement* ← Changes

The decision of when to time reviews and approvals is usually tied to both the level of standards a team must adhere to, as well as their chosen methodology.

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For teams subscribing to Agile-like approaches, reviews are often informal processes that signify the formal end to the life of a requirement. For Waterfall teams, and those working in regulated industries, reviews are a necessity that protect the project team from liability and must be completed more frequently and more formally.

Regardless of when a review is invoked, it should always allow teams to collaborate, create auditability, and demonstrate a team's adherence to regulatory standards or Stakeholder expectations.
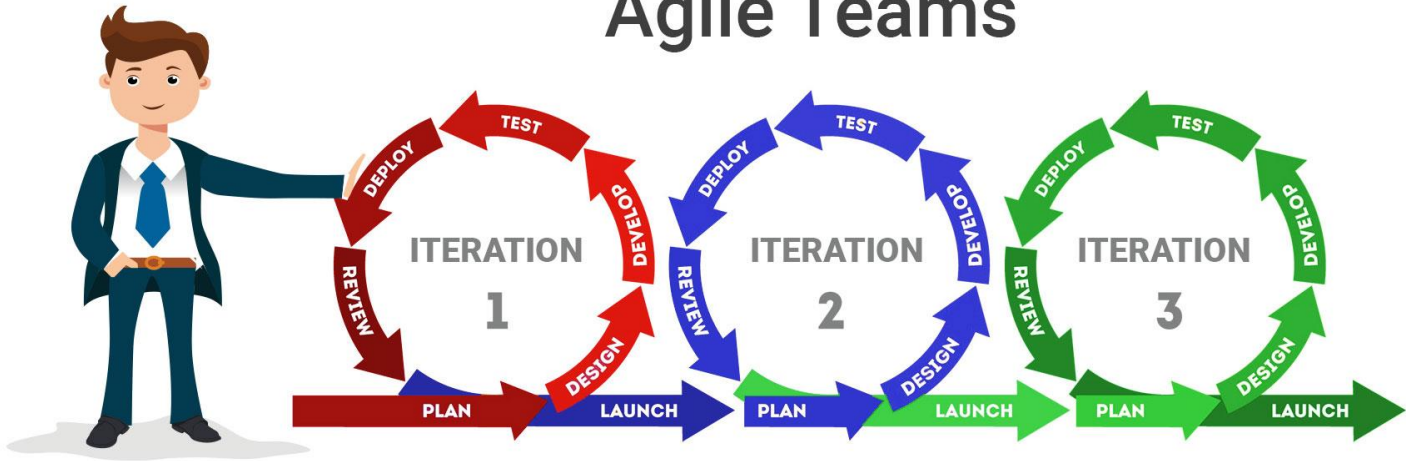
AGILE TEAMS

Agile teams aim to provide a working and tested increment of a product within a single iteration. In an Agile methodology, it is incumbent of a team to host a formal review with a Stakeholder or Project Owner at the end of any given iteration.

Since a review is typically launched at the end of an iteration, it is used primarily to close a requirement's lifecycle. This can be done when a Stakeholder formally approves that a requirement has been met and the Requirement can be marked "complete". Even if a team chooses to perform this review in an informal manner, the objective of their review is to get a formal response from an external Stakeholder.

But Agile teams can also use reviews to increase internal team communication.

For example, the Agile team could use reviews during the course of an iteration. For this to be possible, a review process would need to offer immediate feedback, instant collaboration, and an actionable workflow that facilitates change.

The most common cause for in-iteration reviews is unplanned work during an iteration.

If an Agile team meets an unplanned set of work during an iteration, there are a few strategies that can be employed:

1. Absorb the extra work and split the problem requirement.
2. Break up the requirement and move the carry over work into the next iteration.
3. Replace the requirement entirely with an achievable requirement for this iteration.
4. Create a buffer for this iteration that must be addressed during the later phases of the iteration.

Regardless of which strategy is employed, there is going to be change.
The change could be to the requirement itself or to the iteration. Therefore, any of strategies for unplanned work could (and should) instigate a review process.

If a Review / Approval process is quick, collaborative, and effective, an Agile-focused team could use this opportunity to ensure that the changes are understood, discussed, and appropriately handled to not affect project delivery time.

Agile teams can therefore make use of a Review tool both when dealing with unplanned work and when requesting formal approval from a Stakeholder to complete a requirement.

WATERFALL TEAMS

For waterfall-based teams, requirements are often gathered and created entirely at the start of a project.

Many teams of this nature subscribe to some variant of Waterfall and Hybrid methodologies, but the same rules apply for both:

1. Requirements are built...
2. Requirements are **reviewed and approved**...
3. Requirements get worked on during the stage in the process...
4. The end of that process stage is reached...
5. ... and a final **review and approval** is done on what has been accomplished.

In this case, the Review / Approval process that happens with external Stakeholders occurs after requirements have been authored and elicited, and at the delivery stage.

Requirements could also change during an iteration and could therefore instigate the same in-iteration review explained above for Agile teams. However, it should be obvious that Waterfall teams are subject to using more reviews, and therefore need a good Review solution that is quick, collaborative, and auditable.

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A DEEPER LOOK AT THE WATERFALL MODEL
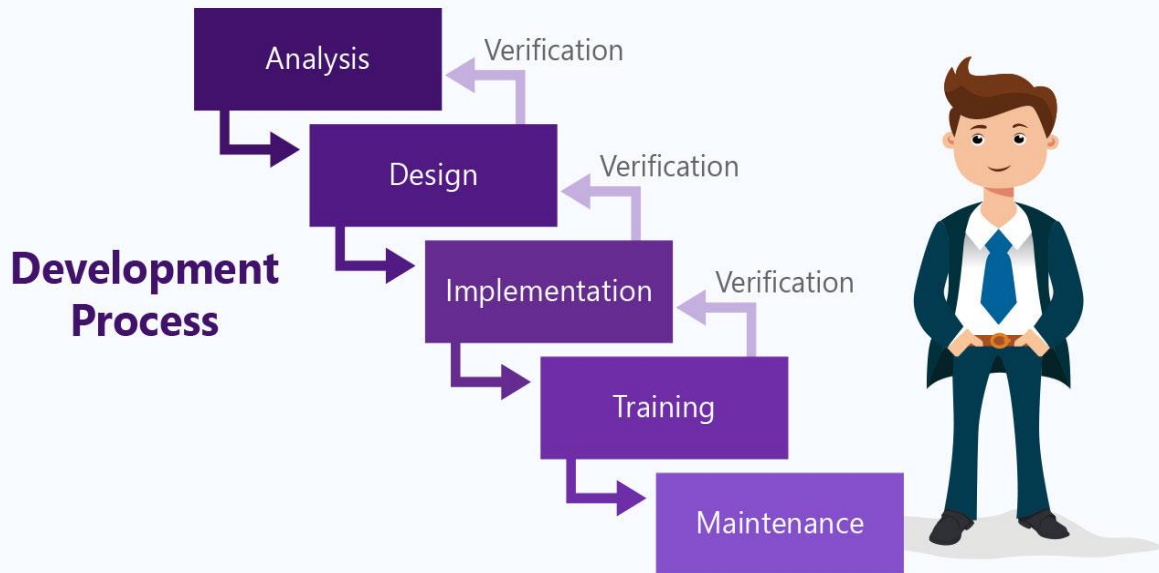
To add to an already review-heavy process, after each stage in the waterfall process there is typically a **verification** step.

This verification step is achieved through a well-structured **review** of how well our team has made it through the current development stage (development, implementation, design, etc.). The verification step ensures that our current achievements align with the original requirements elicited at the start of a project.

This requires users to be able to see which requirements made it into this development step (sometimes expressed as iterations) and communicate to Stakeholders how the given requirements are contextually relevant. A Stakeholder or Facilitator can then verify that the requirements of this step have been met and that we are ready to cascade down to our next development stage.

QUICK RECAP:

To recap, Waterfall (or hybrid) users will often have both an initial **review** and a recurring review process that extends throughout the project lifecycle.

Reviews themselves are used by team members internally to coordinate how work items should change, as well as provide benefits for Agile and Waterfall teams.

However, the traditional modes of reviewing requirements are neither quick nor do they aid in overall collaboration. Many of the methods include complicated steps that require teams to "dance" the appropriate way, and/or adhere to a strict set of formal processes.


Want to increase your Stakeholder participation, or make internal communication faster, easier, and more collaborative?

See how Modern Requirements4DevOps can bring your team together in a simple-to-implement Review process.

REQUEST A DEMO!

✔ Schedule a demo with one of our trained product experts.

✔ Receive a personalized demo that mimics your team's process

✔ Engage our experts on topics such as workflow or best practices.

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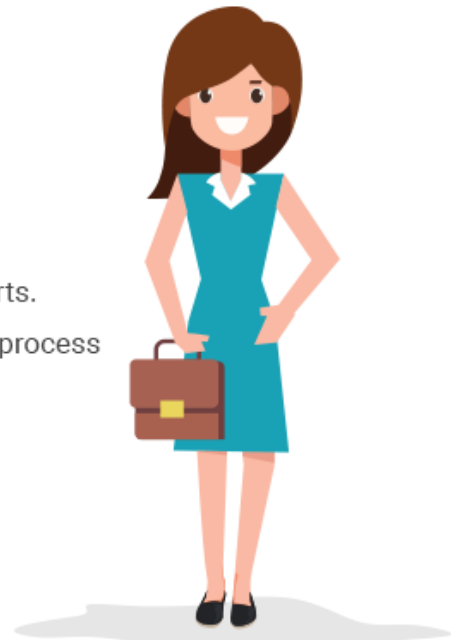
THE CHALLENGES WITH TRADITIONAL REVIEWS IN TODAY'S REQUIREMENTS LANDSCAPE

After speaking to Solution Architects, Requirements Engineers, Business Analysts, and Project Managers for three months, we collected data on how reviews are done by teams of different sizes and methodologies.

We found that in over 95% of cases, teams were using one of two traditional techniques for facilitating changes to requirements. They were either using in-person reviews or exchanging documents as a means of getting approvals and feedback. In this section, we describe the pros and cons of each.

The challenges of in-person reviews:

In-person reviews struggle with the age-old problem of needing to coordinate the meeting of several parties. This means that before a review has even started, there is already work to be done. After surveying the users who followed in-person reviews, **the average time to coordinate a meeting was 3-5 days**.

The task of putting together a meeting of disparate individuals is therefore both lengthy and innately difficult – an issue made worse when team members span multiple teams, need to connect remotely, or who are unable to participate due to unforeseen circumstances.

But are in-person reviews worth the trouble?

While some article writers hail the in-person meeting as the ultimate mode of facilitating change and approvals, they often write this in tandem with a list of possible pitfalls and the appropriate ways to dance around them – and these suggested dance steps are often not simple tips and tricks.

Navigating in-person reviews can often require a formal process which needs to be both implemented and executed perfectly for the review to have any meaningful results.

For example – if a team member is distant and must connect remotely, the review must follow **X** procedures, and if there are team members and stakeholders it must also have the components of **Y…**

The system of suggested rules surrounding in-person reviews is written about extensively. Often, the ability to coordinate successful in-person reviews is revered as an interpersonal art form backed by a large degree of extra work, finesse, and in many cases, luck.

Issues with In-Person Reviews

- When in-person reviews are completed too early or cannot be completed, they are a **significant waste of everyone's time.**

- Traditional methods such as reading every requirement aloud can be both **awkward and inefficient.**

- **Missing people or non-participative reviewers** can be the cause of **repeated reviews, slow approvals, and taxing post-review communications.**

- In-person reviews require **large amount of logistical work** to plan, facilitate, and execute.

- Review meetings often **go off track and become design meetings,** leading to **difficulty in getting clear sign offs.**

The challenges of document exchange for reviews:

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Although the in-person review approach has the benefit of bringing people together, the logistical overhead required to navigate the in-person review often makes it an ineffective practice.

Even "simple" issues, such as a member's unwillingness to participate, can cause a review to take longer, require more work, or need to be repeated to get the appropriate changes and sign-off.

This can lead many teams to create a review process centered around building and exchanging documents.

Document reviews offer many of the benefits of a traditional in-person review, without the logistical overhead. Document creation and exchange allows teams to build the necessary context surrounding a set of requirements, allowing Stakeholders and team members to better understand a review's purpose and goals. Many teams feel that documents can also increase collaboration.

Over the course of three months, we have had several teams respond to our questions about document exchange reviews with the following statement:

"The act of building requirements documents is almost exclusively to facilitate a better requirements review and approval process. We use documents for added context and as a medium of collaboration."

While documents help contextualize requirements and provide a comprehensive medium for reviews, they are <u>not a collaborate approach</u> to facilitating change. And while documents do serve other purposes, the context they provide is often sought after solely for the purposes of review / approval.

Documents allow teams to facilitate **change through consolidation**, **not through collaboration**.

With document reviews, an individual participant will typically make their changes directly to the document. In doing so, they create a second revision of the document. That document must then be taken and consolidated by the originator of a review. When multiple Stakeholders are participating in a Document Exchange Review, you can have multiple versions of the same document which might have conflicting change requests that must be consolidated as well.

Because these competing change requests are consolidated into a single document, you often end up with a fully consolidated document which still requires a full review by all the participants.

> Does your team suffer from Review / Approval challenges?
> Check out our Review module with FDA CFR 21 Part 11 Compliant e-signatures!

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✔ Receive a personalized demo that mimics your team's process

✔ Engage our experts on topics such as workflow or best practices.

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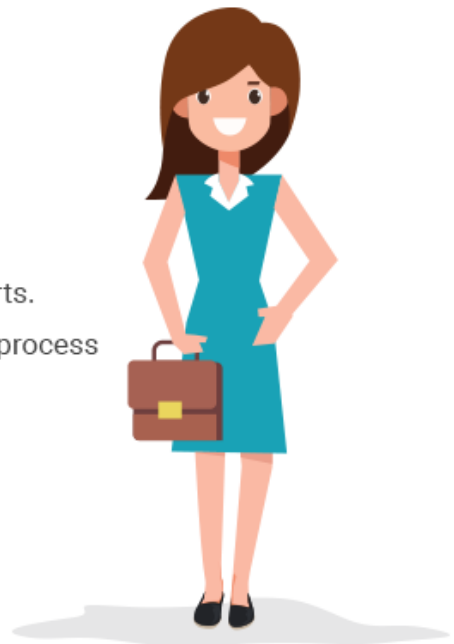
To demonstrate this iterative, consolidation process teams have demonstrated to us, let's look at the following diagrams:
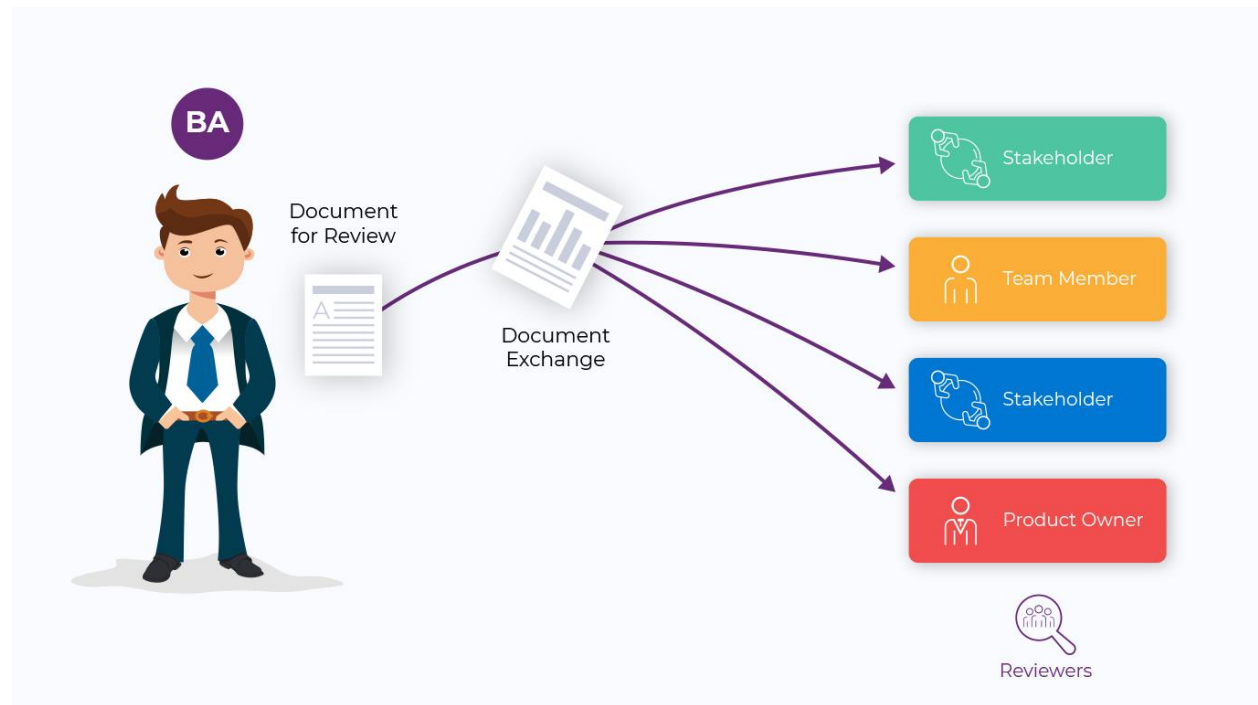
If a <u>single document</u> is sent from the review originator to four people, the review originator will then receive <u>four documents</u> in return.

At this stage, when the changed documents return to the review originator, they must all be consolidated, conflicts must be handled, and a cohesive final document must then be produced.

This "final document" still requires a full review by the same participants!

This cycle can continue and can have multiple iterations, often leading to review participants who are disengaged, rushed, and uninvested in a review's outcome –

which can easily result in problems later in a project's lifecycle, or can have immediate impacts downstream.

Outside of creating this iterative process, teams who build documents quickly create a requirements process that has several records of truth. **Requirements** and **documents** must be managed, updated, maintained and synchronized as two separate objects. Teams must also make sure that any document representing a review's outcome is saved and easily located if/when it is needed for auditability purposes.

On top of this being non-collaborative, and creating a decentralized requirements process, documents do have their own logistic challenge as well.

Issues with Document Exchange Reviews

- Changes during a document review are inline and **require teams to engage in several iterations of changes** to a document.

- Document reviews **average 10 days to complete when there are multiple Stakeholders.**

- When exchanging a document, **reviewers must review the same document multiple times** after all requested changes are consolidated.

- Requirements documents must be **managed, maintained, stored, and updated separately** from your requirements management tool.

- Document reviews are often used as project Baselines, despite **not containing all the necessary information** that needs to be captured.

- Document reviews often require **manual sign-off or third-party applications to provide e-signatures.**
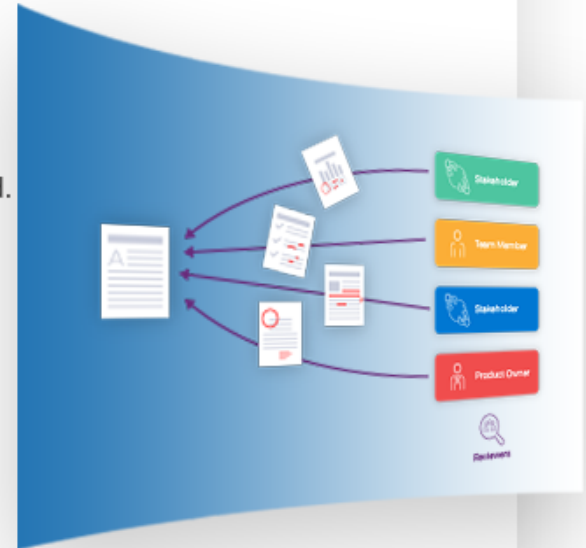
To reiterate, document exchange reviews are inherently an individualistic and non-collaborative approach to facilitating requirements change. Although they do curb many of the limitations in the in-person review process, they do not offer a robust, straightforward solution to the pitfalls of traditional reviews and approvals.

The aim of a review should be to facilitate collaboration, and in today's age it should not be dependent on iterative document consolidations and manual sign-offs.

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THE SOLUTION TO THE PITFALLS WITH TRADITIONAL REVIEWS / APPROVALS

The solution to a good review process is one that provides the immediate feedback and collaboration you receive in an in-person review, while also providing each team member the opportunity to provide thoughtful feedback as with a document review.

In this scenario, the review should also contribute to a single-source of truth model while helping teams to connect internally and with Stakeholders.
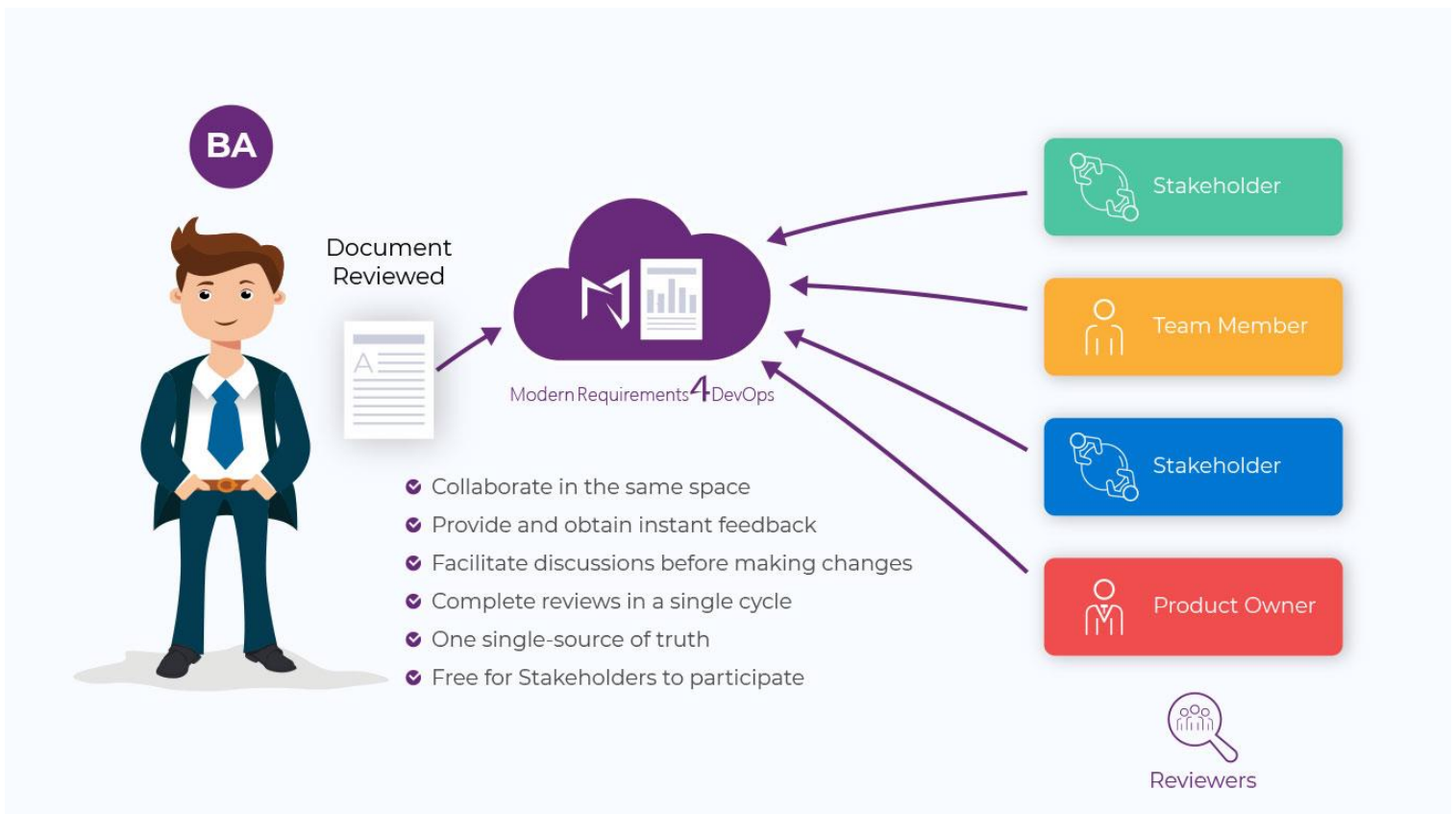
When building a formal Review / Approval process, teams should keep in mind what makes a successful review:

1. A review must increase Stakeholder participation and visibility early in a project's lifecycle.
2. A review process must be as quick, and collaborative as possible and provide immediate and actionable feedback.
3. Reviews should facilitate bulk changes to requirements that can be enacted quickly.
4. Reviews should support a formal sign-off procedure as well as allow formal Change Requests to be created if necessary.
5. Reviews must be simple to implement, easy to navigate, and accessible to the right people at the right time.

But a review must not include the overhead required to schedule a meeting, and it must not be a lengthy iterative process that can take weeks for sign-off to occur.

Reviews need to be a natural, asynchronous step in the requirements management process.

No good Review / Approval process feels like a roadblock.

Instead, reviews should help teams innately move requirements through their lifecycle. When a "Proposed" or "New" requirement is approved by all of the appropriate parties, that requirement is typically ready to be worked on. That's why with **Modern Requirements4DevOps Reviews,** when a requirement is fully approved it can be moved into the appropriate State it should be moved to.
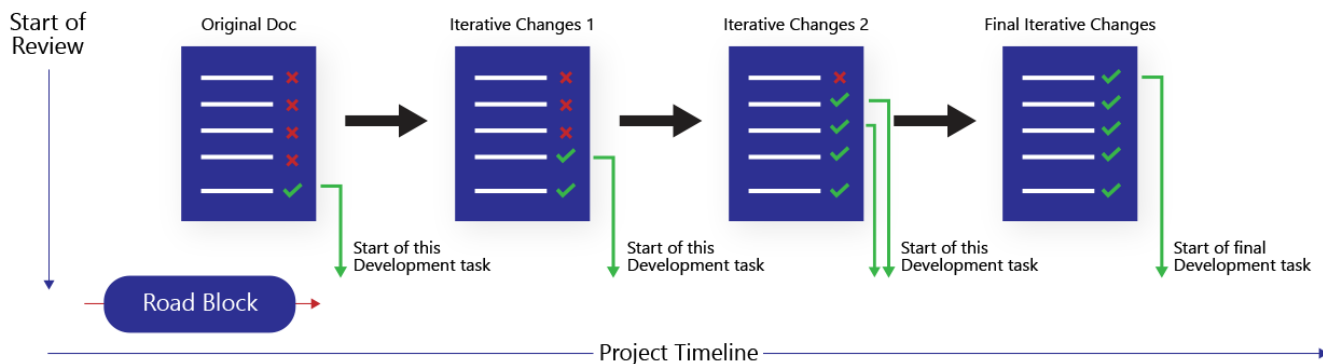
This allows your review to become an asynchronous process where your developers can begin working on requirements as soon as they are ready. Teams therefore work faster, deliver sooner, and don't miss out on the quality of requirements provided by a review process.

TRADITIONAL DOCUMENT REVIEWS

Start of Review — Original Doc — Iterative Changes 1 — Iterative Changes 2 — Final Iterative Changes — Start of Development

Road Block

Project Timeline

MODERN REQUIREMENTS DOCUMENT REVIEWS

Start of Review — Original Doc — Iterative Changes 1 — Iterative Changes 2 — Final Iterative Changes

Start of this Development task — Start of this Development task — Start of this Development task — Start of final Development task

Road Block

Project Timeline
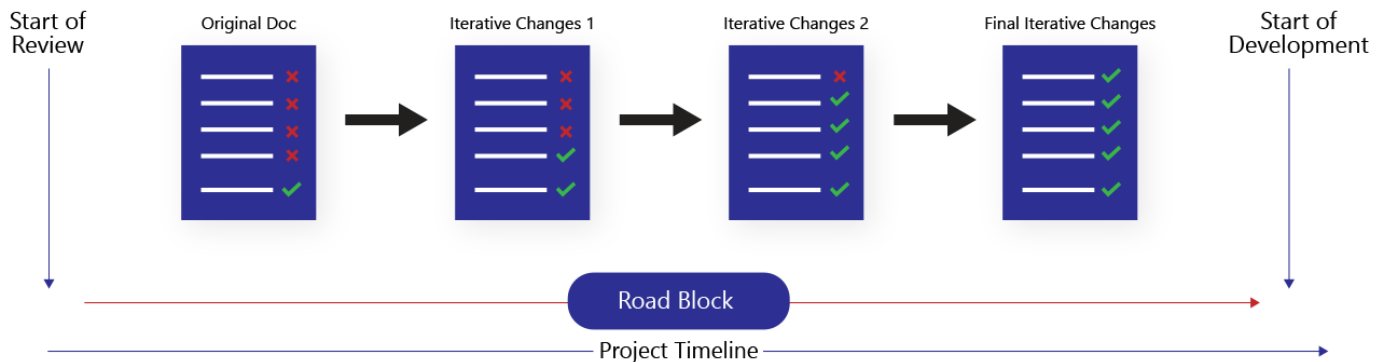
Our professional service team has worked with thousands of teams who differ in both size and methodology.

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The most common feedback we hear is that teams are able to establish a working Review / Approval process that is accessible, free-to-participate in, and increases both collaboration and the quality of requirements.

Teams using **Modern Requirements4DevOps** can turn requirements into documents and have those documents immediately reviewed by any internal or external member of your team.

For Agile Teams:

Our solution creates one record of truth.

This means when you create a Smart Doc, you can drag and drop all of your relevant project requirements into a document that you create online. You can instantly add in all of the necessary context elements that surround your requirements and get sign off from your Stakeholders without needing to interact multiple times.

We make reviews quick to keep you Agile… and we can prove it.

Book a Demo now…

For Waterfall / Compliance Teams:

Our solution brings you rich collaboration, compliant e-signatures, and complete auditability.

As your project moves forward you want to be able to see the Traceability of your project and have full records of what changes occurred and when sign-off occurs. We provide you with one-click auditability reports that detail every action taken during a review, as well as every sign-off, and we even include timestamps. We also provide you with the ability to turn a review into a Baseline at any time to capture the changes that have occurred to requirements.

We remove the manual work required to create compliance… and we can prove it.

Book a Demo now…

Our solution provides the immediate feedback of an in-person review and fosters rich collaboration that is often provided by document reviews. We also include the following:

1. Build an online review of lists of work items.
2. Include CFR 21 Part 11 Compliant e-signatures for sign off.
3. Setup automatic email reminders that notify participants during the review.
4. Review workflows that automatically move requirements through their lifecycle after approval.
5. Engage in rich collaboration with review participants who can review within the same space.
6. Enact formal Change Requests in a simple and effective manner.
7. Reduce approval delays and increase project velocity!

I'D LIKE TO TRY IN YOUR ENVIRONMENT WITH DATA

Our environment, sample data, no setup.
Try our pre-built COMPLIANCE, BABOK, CMMI, or Agile and SCRUM templates and experience the full capabilities of Modern Requirements.

Try Free!

I HAVE AN AZURE DEVOPS CLOUD ENVIRONMENT

Your data, your projects, our extension.
By trying MR4DevOps in your environment you can start exploring our Requirements Management Tools almost immediately.

Try Free!

PROMOTING COMPLIANCE
THROUGH BUILT-IN ONLINE REVIEWS

At Modern Requirements we know how difficult it can be for teams to remain compliant.

That is why our tools help your teams remain Compliant at every stage of the project lifecycle. In Modern Requirements4DevOps, you can easily create all of your documentation directly within your Azure DevOps project.

Facilitating ISO Compliance through ALWAYS UP TO DATE DOCUMENTATION.

The documents you create within your project are fully versioned and act as living requirements documents that can contain your project's requirements. This means that your documentation is always up to date. Your documents can be fully versioned and compared, while offering requirements creation through a simple document-like interface and allow you to easily initiate Document Reviews!

Facilitating ISO Compliance through ONLINE E-SIGNATURE REVIEWS.

Reviews sent from Modern Requirements4DevOps act as a medium for collaboration with internal team members and external Stakeholders. These reviews can include the option to require FDA CFR 21 Part 11 Compliant e-signatures. Our reviews can help ensure that only requirements that are approved make it to the development stage, and help you keep control of your project!

Facilitating ISO Compliance through INCLUDED COMPLIANCE TEMPLATES.

Our FAQ module supports your team by identifying all of the questions related to building ISO Compliant systems. We include over 20 templates on general non-functional requirements, as well as for ISO 13485 and ISO 14971!

A Case Study in Compliance:

Case Study Participant:

Overview of Case Study Participant

Parallon is one of the country's largest premier revenue cycle partners, with more than 15,800 employees serving 600+ hospitals and 3,000+ physician practices. Annually, they collect more than $41 billion and interact with 37 million patients. Their track record of results is among the best in the industry. Parallon is a wholly owned subsidiary of Hospital Corporation of America (HCA), and is located in Nashville, TN.

Participant's Feedback:

Parallon uses Microsoft's on-premise TFS extensively in their ALM process. However, they felt it did not support their requirements process adequately. They approached Modern Requirements regarding how our solution could extend TFS, and VSTS for requirements management.

They were impressed to see that it was built right into the native TFS, and VSTS UI, offering a single sign-on experience, as well as a single source of truth for product owners, analysts, developers, and testers to work in.

Furthermore, Modern Requirements' solution addressed the specific aspects of their process that they had identified as gaps.

These solutions included:

1. Removing the attaching of lengthy documents that did not provide granularity for tasks
2. Providing the ability to work with visualizations
3. Allowing Parallon to better manage project scope
4. Offering full control over e-signature reviews and a decreased the average review duration.

Parallon implemented Modern Requirements Solution in late 2017 for all analysts. Here are some of the results they saw:

Dramatically reduced Review / Approval timelines

Since product owners are regularly travelling, being able to view, comment upon, discuss, and approve requirements online greatly reduced the review timelines and time-to-value delivery.

Improved scope management

Comparing a baseline of the proposed work items at the beginning of a project with one taken mid-project, and seeing highlighted changes made Modern Requirements essential to the control of scope and budgets.

Reduced email churn and rework

Modern Requirements eliminated dozens of emails and misunderstandings with Stakeholders.

ABOUT OUR WORK WITH PARALLON:

When Parallon approached our team to implement our solution as part of their implementation process, our team knew that Compliance was at the center of what Parallon did.

During our implementation we were able to showcase our solution's flexibility by accommodating not only different methods approaching Compliance, but also by accommodating custom requirements types and their properties.

Our solution was adapted to the needs of Parallon's team, and provided them with a requirements solution that met their process and workflow.

But what made our work with Parallon a complete success, was our ability to reinforce their needs to create a fully auditable, regulatory environment for requirements that met their ISO compliance needs.

IN CONCLUSION

Modern Requirements4DevOps built-in online reviews solve all of the pitfalls of traditional methods of review and approval.

By offering teams the ability to create and manage reviews directly from their Azure DevOps project, teams can be compliant and remain within a single source of truth model.

Our reviews act as a vehicle for effective collaboration through discussion. By bringing teams together, and including external Stakeholders for free, our solution ensures that reviews are:

1. Accessible
2. Effective
3. Collaborative
4. Compliant

Whether your team is Agile or Waterfall, formal or informal, Modern Requirements4DevOps' review module can simplify Stakeholder communication, and increase team collaboration!

To see how your team can benefit from better reviews, book a demo with Modern Requirements today!