Software Development Process

PHX014

Contents

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Purpose

The purpose of this process is to ensure the stable development and release of internal and external applications which support the Phoenix business or its customers.

Scope

The process applies to all software development and testing personnel and impacts on all staff members / customers who access systems developed by the team.

Responsibility

It is the responsibility of software development and testing personnel to provide computer based systems that adhere to agreed specifications and are suitable for the business tasks they are designed to perform. A key area of development is the internal system OASIS, it is the responsibility of the team to ensure that OASIS develops to meet the demands of the business and that it is performing correctly.

Request for Development

Initial requests for development are reviewed by the development and testing managers, if the request is applicable to current business needs and requires development then it will be logged on Azure DevOps. Once logged, requests are reviewed by the development and testing managers along with a representative of the directors and/or the product owner to determine the schedule of work. Once requests are approved then requirements gathering and specification commences.

Support Tickets

If any issues raised from a Support Ticket require development these are logged on Azure DevOps and are reviewed by the development and testing managers along with a representative of the directors and/or the product owner to determine the schedule of work.

Requirements Gathering and Specification

If further specification of the request is required, the members of the development and testing team liaise with the appropriate people to gather the functional and business requirements. The team draw up the initial specification; the development team review the specification to determine the feasibility and technical requirements.

Once a specification has been agreed it is be signed off. An Epic is created on Azure DevOps to hold the specification and any other documentation. The specification is broken down to work items on Azure DevOps. Initial estimates and deadlines are provided, and the work is scheduled as a development build. The work items are assigned to a developer with a status of "New". The testing team commence scripting in preparation for the build.

Further enhancements to the specification are documented directly as work items.

Development

Once a developer is assigned a work item, the coding of the solution according to the given specification commences and items being worked on have a status of "In Development". Once development is completed, the status is updated as "Development Complete".

Test Deployment

Each developer works on their assigned work items until the build has been completed. On occasions, if the build contains multiple work items, there may be an intermediate milestone. Once this milestone has been reached, the latest version of the code is deployed into a testing environment. All items that are in this deployed code have the status of "In Testing" and assigned to a member of the testing team.

System Testing

Each item flagged as "In Testing" is tested against the test scripts. As each work item tests correctly the item is flagged as "Passed Testing". The scripts and test results relevant to the build are retained by the testing team. If any defects are found, they are logged.

Defect Review

After each cycle of testing a defect review is conducted by the developers and testers. Based on the severity, impact and risk associated to the build it is determined if any defects raised are to be addressed in this build or moved to the backlog.

If any defects are to be addressed in the current build they are assigned to a developer and the process returns to the Development stage of the project life-cycle.

If there are no outstanding defects the process continues to the next stage of the life-cycle.

Critical Path Testing

Once all items have passed testing, the test team conduct "critical path" testing to ensure standard functionality has been unaffected by the change. If any defects are found, they are logged, and another Defect Review is performed.

Once the test team have passed the code it is prepared for "UAT" (User Acceptance Testing).

User Acceptance Testing

A demo of the new functionality is provided to the UAT testers, along with a document of the changes. They are then given a copy of the build in a dedicated UAT environment to conduct their acceptance testing.

Once they are happy with the new functionality, they report back to the test team. However, if the item does not work as intended; a defect is raised describing the issue.

If any defects have been found during UAT another Defect Review is performed which includes the product owner.

If they require functional changes, this is logged and reviewed to determine if this requires immediate action with the current build or if it can be moved to the backlog.

Deferring Items

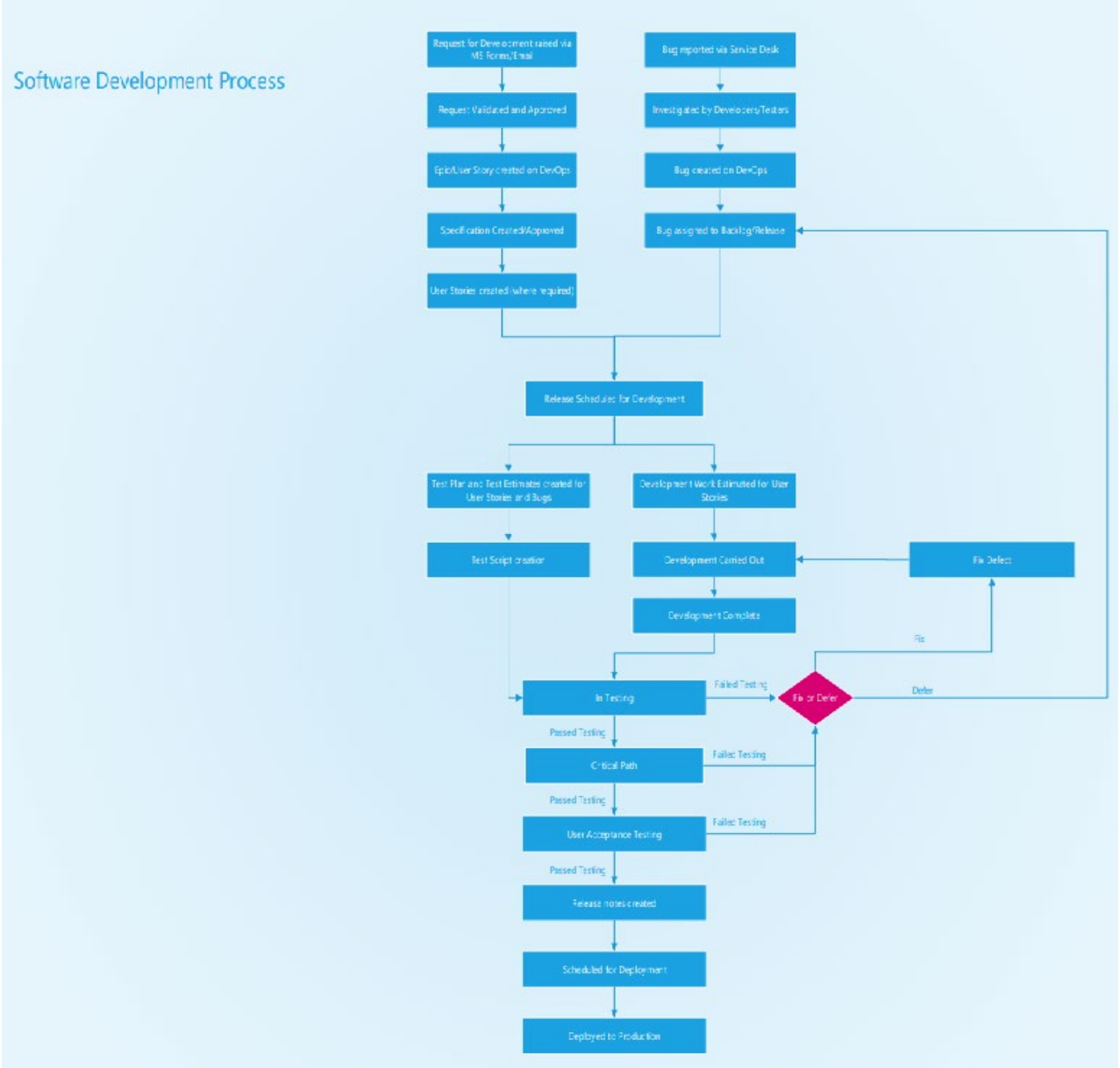
Some items may fail testing, but due to time and business constraints these may need to be deferred. Deferred items are removed from the current build and moved to the backlog.

Production Deployment of Internal Systems (Oasis and PSP)

If all items from the build and critical path test have passed testing (or have been deferred), the solution is prepared for deployment into the production environment. Deployment of internal systems are usually scheduled with the Service Desk and authorised by CAB.

Once a deployment date is confirmed, an MSI file for the windows client is created by the developers and passed to Service Desk who will deploy this to the laptops via SCCM. The database schema is updated on the production environment and a new WCF Service is published to IIS on the production application server.

Developers only have access to the production environment using their admin accounts which grants them the required permissions to update the applications and database servers.



Version Control

Author	Version	Date	Description
Kevin Wootton	1.0	01/05/2016	Original Document
Kevin Wootton	10.0	05/10/2021	Full review and update *(brought under Document control practices 2021)*
Kevin Wootton	10.0	20/09/2022	Annual Review

Document Approval

Name	Version	Date	Position
Sam Mudd	1.0	01/05/2016	Managing Director
Sam Mudd	10.0	05/10/2021	Managing Director
Clare Metcalfe	10.0	30/09/2022	Operations Director

Signed: Clare Metcalfe Clare Metcalfe, Operations Director

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