



ITQ BUSINESS SOLUTIONS (PTY) LTD

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SDLC

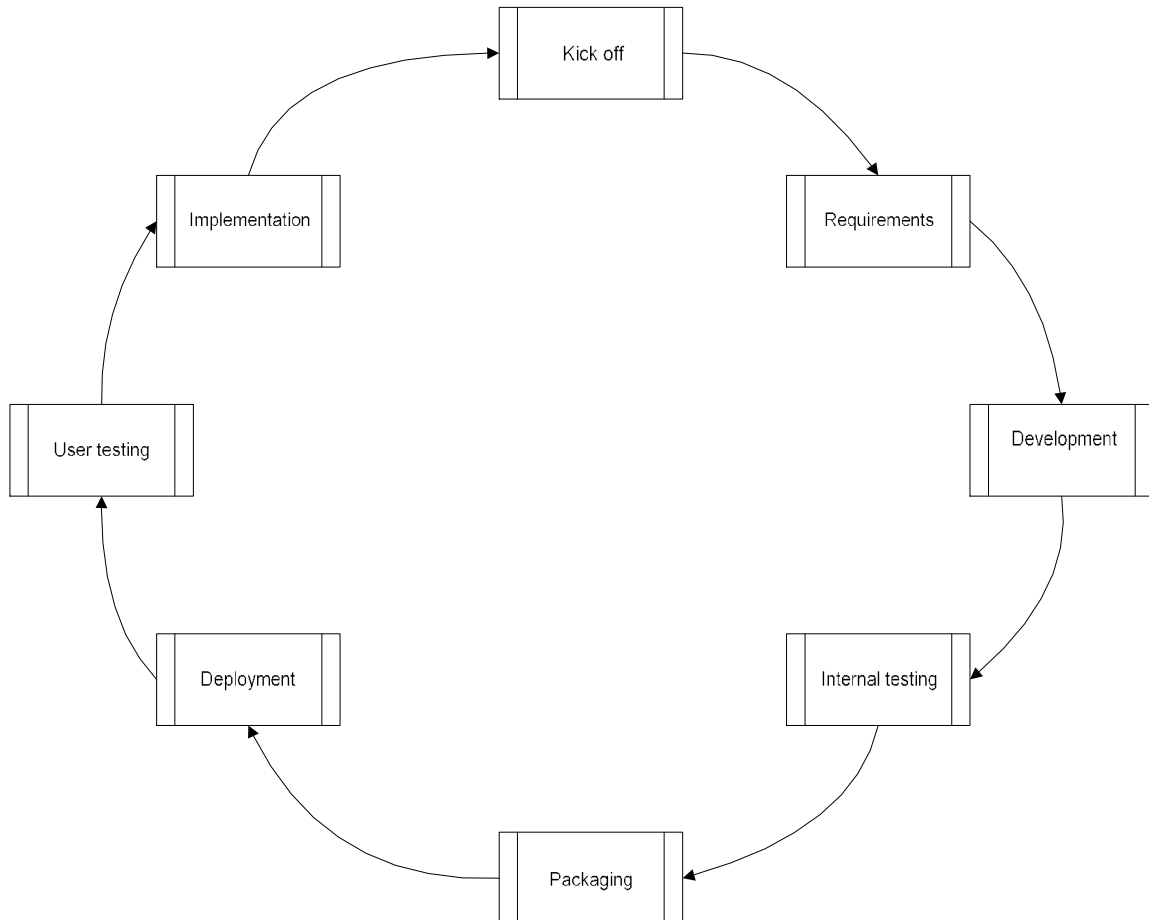
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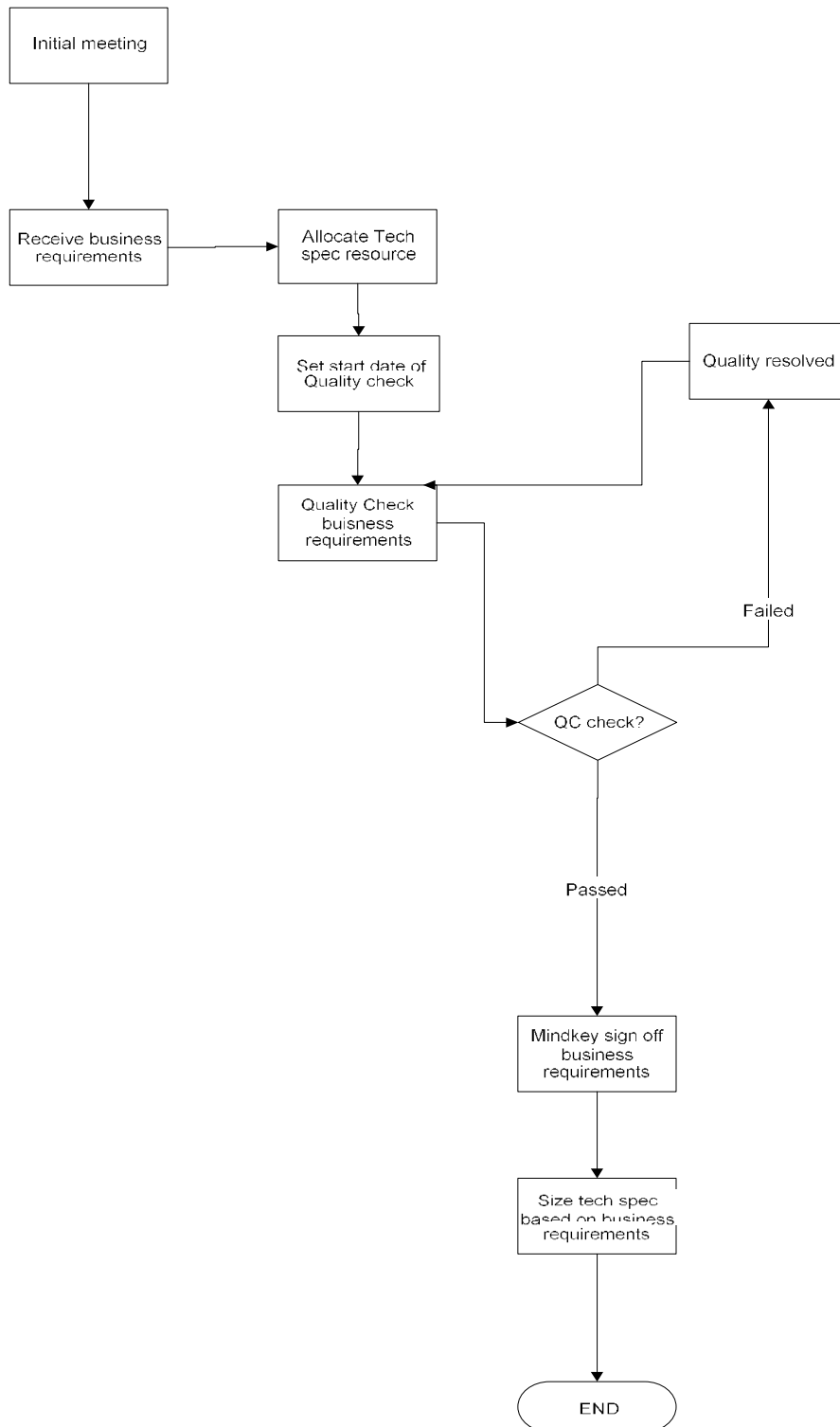
Development process

This is the high level overview of the SDLC at ITQ. Each section is broken down in the document below into various steps and each step is then explained in more detail. Each section and steps within the sections have the possibility of been cyclic within the entire process. For example if Internal testing process fails the Development process can be repeated.



1. Kick Off

This is the start of the process and this section involves the initial meetings about the project, the goal of the project and deliverables of the project.



A. Initial meeting

This meeting is the kick off meeting about the project and involves all the high level stakeholders (project owner, account manager, project manager, and business owner). In this meeting the discussion will be around the goals and high level deliverables of the project. This meeting will include a handover of the business requirements.

B. Allocation of Technical requirements resource

This section is the allocation of the resource that will perform the technical requirements and sizing of those requirements.

C. Set Start date of Quality check

This is essentially the start date of the project. The quality check can have no timing's to it as you cannot estimate the length of time required to have all questions resolved and specifications finalized.

D. Quality check of the business requirements

ITQ will read and quality-check the business requirements. At this stage any unclear specifications around the business requirements must be checked. If any clarity is required the spec is sent back to the "client" whom will resolve any unanswered questions around this document before the technical spec begins.

E. Questions around business requirements

The resource will also ask any questions around the business requirements in order to gather an understanding of the document to begin his technical requirements.

F. ITQ sign off business requirements

Once the requirements are fixed and all question resolved ITQ will sign off the requirements in order to begin the technical specifications

G. Size Technical Specification

ITQ will provide the client with timings on the size of and estimated delivery date of the technical spec. The start of the project plan will begin here with the start date and delivery date of the technical spec. The technical spec sizing is an estimate and may change due to design team requiring more time to correctly design the solution

Inputs

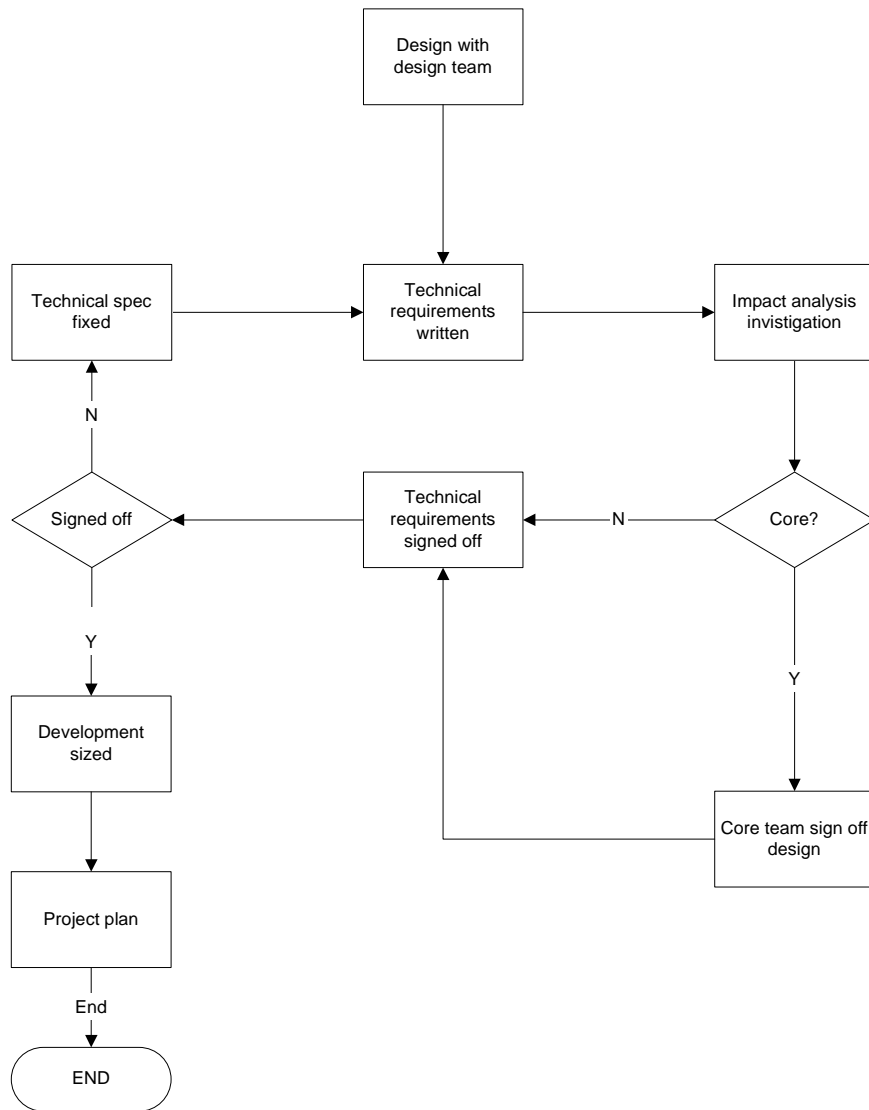
1. Business requirements

Output

1. Finalised Business requirements (Client)
2. sizing of Technical Specifications (ITQ)
3. Sign off (ITQ, Client)
4. Project plan with initial sizing's.

2. Technical requirements

The technical requirements step is the step used to document and design the process so the developers are aware about what needs to be delivered.



A. Design with Design Team.

Initial meetings are set up to go through the specifications and design any technical issues that may occur in the project. This is to ensure the best design in terms of ITQ's standards and prevent repetition of code and leverage existing functionality.

B. Technical Requirements written.

At this stage the resource turns the business requirements into a technical spec using the ITQ Template and resolves all possible technical and design issues in the document. The document needs to outline the reasoning about certain design decisions and the required outcomes of those decisions. It is also used to give the developers a better idea of what's required and how long it will take them.

C. Impact investigation.

This is the step that evaluates the impact of the project on the current code base and determines the impact on the current work with regards to **performance**, **scalability** and **reusability**.

D. Core team.

If there are any core changes then the core team need to sign off the design

E. Technical requirements sign off

The technical requirements are signed off by the account manager, development manager (or someone designated by them), the developers.

F. Resolved issues

If any issues are picked up during sign off the document is returned until all issues are resolved

G. Development Sized.

Using the technical requirements the project is then sized by ITQ.

H. Project Plan.

The project plan is drawn up by the account manager based on the sizing and resources supplied.

Inputs

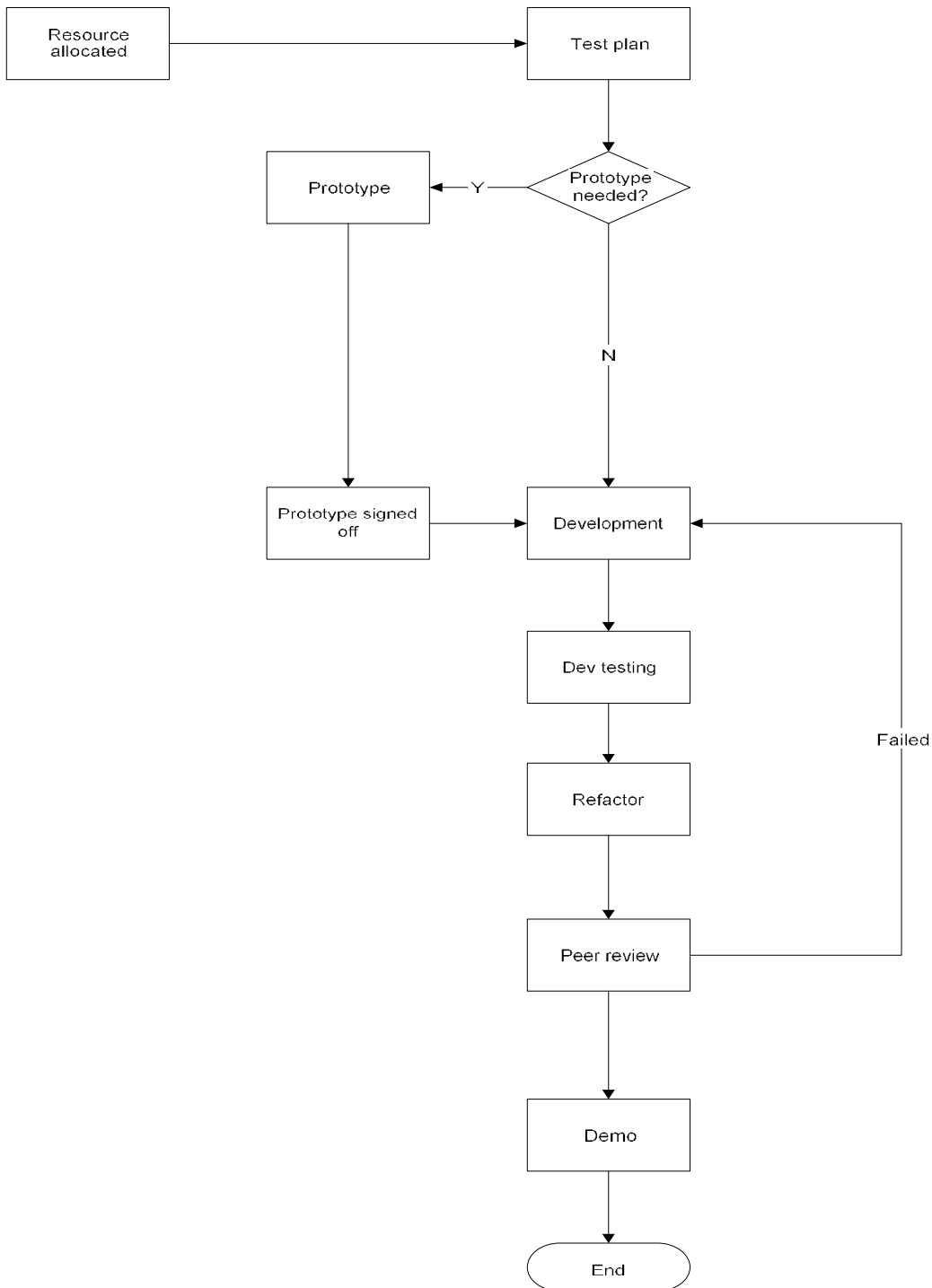
1. Business requirements

Outputs

1. Technical Requirements
2. project plan and sizing's.

3. Development

The development process is the stage of the project where the work on the deliverables starts. This section is done at a module by module basis.



A. Resource Allocated

The development resources are allocated at this stage

B. Test Plan

This step may be done in conjunction with the other steps but must be complete before development. This step is the drawing up of the plans on how to test the project and the deliverables.

C. Prototype

At this stage any modules that need further technical or business clarification are prototyped and delivered to the client for sign off before development on that module begins.

D. Development

This is the stage where the different modules of the project are developed.

E. Dev testing

This is the stage of the project where the developer tests his own work

F. Refactor

This stage of the project is used for the developer to go back and clean up his code and help make it more readable and reusable. It is also used to revisit design documentation and modify where required

G. Peer review

This is the stage where another developer or technical manager reviews the work done and changes it to be inline with company coding and design standards

H. Demo

This is a demo of the work to the client to get the clients sign off before internal testing begins. As well as make any changes to the code / module based on requirements from the client. Note that any changes are to follow the whole process before the changes begin.

I. Client sign off on demo

The client agrees to what has been delivered in the module

Inputs

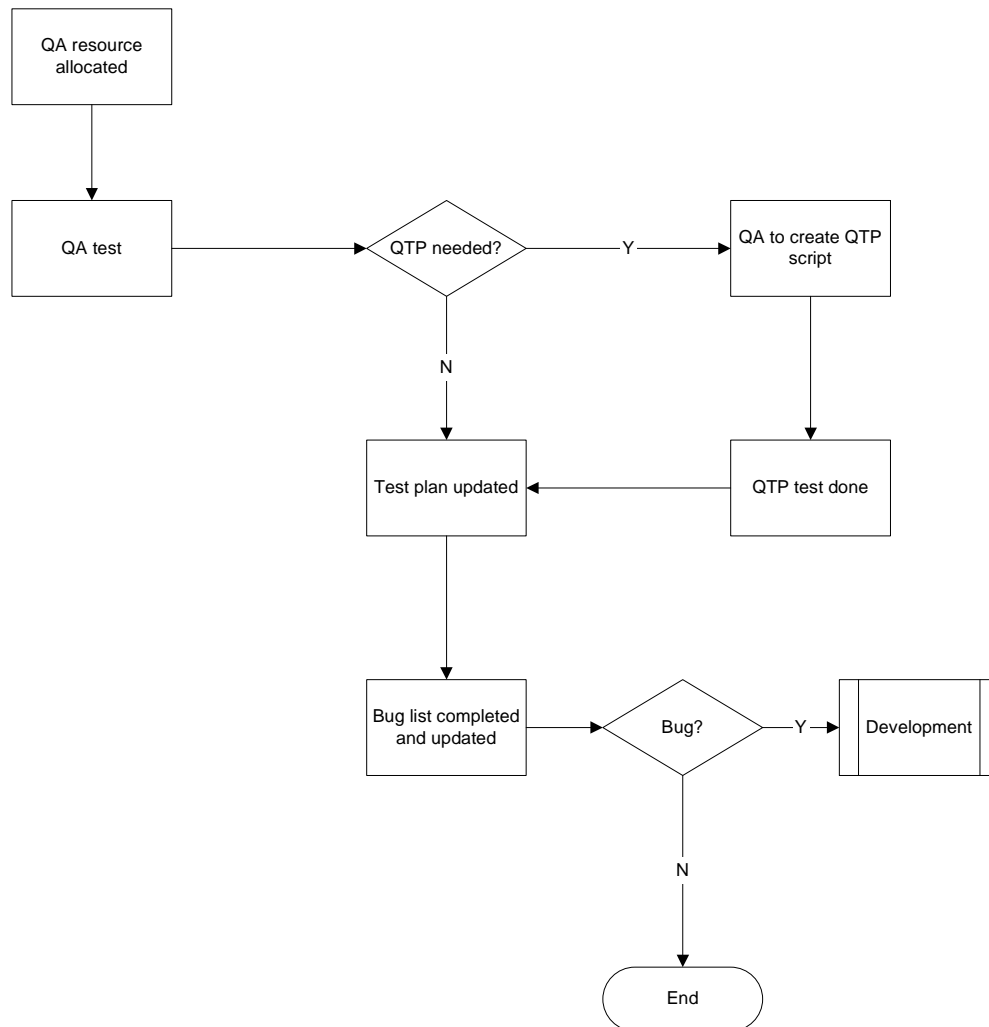
1. Technical requirements and Project plan.

Outputs

1. Module by Module deliverables of the project required for packaging and internal testing.
2. Project plan

4. Internal testing

The internal testing process is the process where by ITQ's quality-assurance team tests the work delivered by the developers.



A. QA resource allocated

A person from the QA department is allocated to testing the project

B. QA Test.

The resource tests the work of the project using the testing plan, technical requirements and business requirements.

C. QTP

If required QTP scripts are built to automate testing and can be reused for re-testing later on. The core QTP scripts are used to do a regression test on the changes made.

D. Test plan updated

All results of the tests are put into the test plan document and updated correctly.

E. Bug list

A bug list is compiled from the problems found in the project and returned to the developer to be resolved. Once all issues are resolved the follow the testing process once again

Inputs

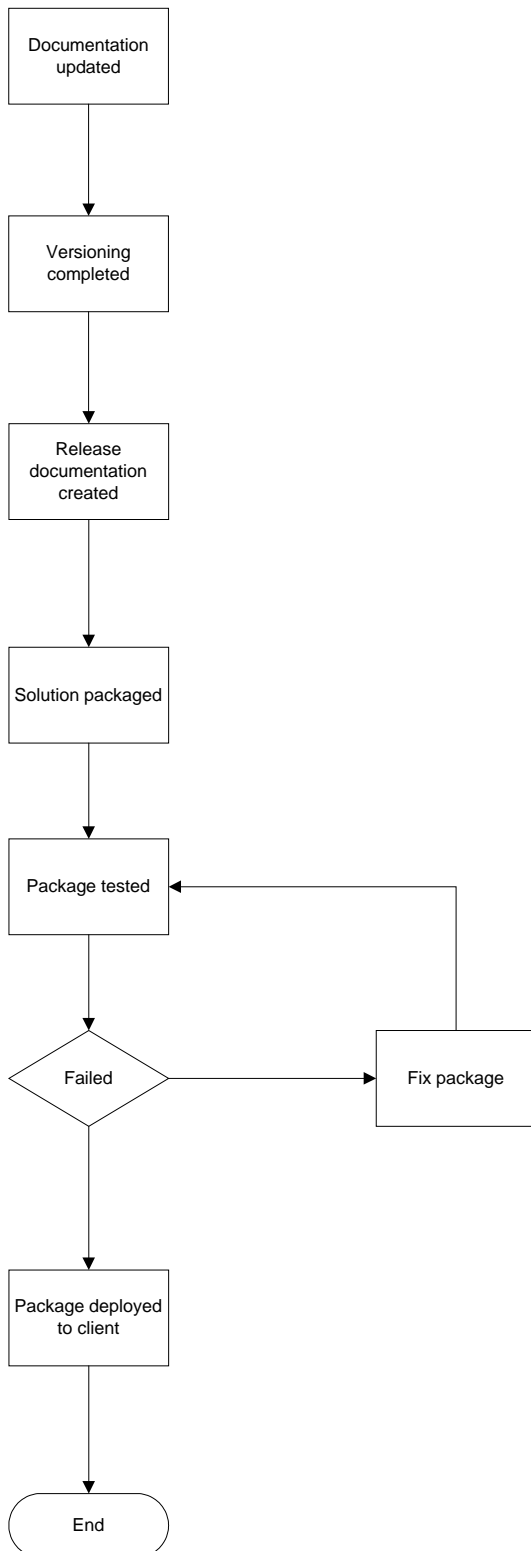
1. Development work and modules

Outputs

1. Test plan
2. Bug list
3. Tested work
4. Sign off by QA

4. Packaging

This is the stage of the project where the work is put into a package to be deployed to the client's site for testing



A. Documentation Updated.

Technical requirements are updated with any changes from the development stage as well as initial release documentation written. The code is also documented or the code documentation generated.

B. Versioning complete.

The physical modules are versioned and documented for release.

C. Release documentation

Release documentation is created and lists all modules to be implemented.

D. Solution packaged.

The individual modules are packaged into one solution for deployment at the client.

E. Package tested.

The package is tested on an internal deployment site for verification of a successful deployment.

F. Package deployed to client.

The package is sent to the client who installs the software otherwise a ITQ rep is sent to the client to install the package.

Inputs

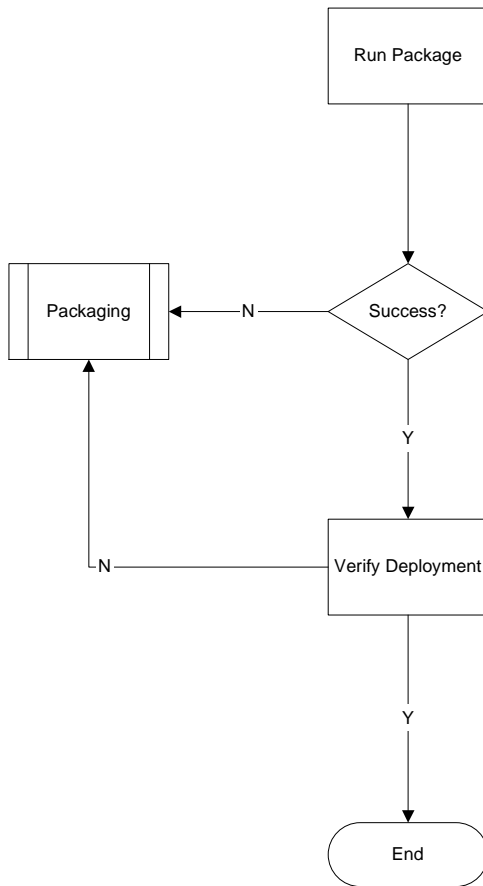
1. Development work

Outputs

1. Initial release documentation
2. Update Technical requirements
3. Code documentation
4. Versioned software
5. Package that can be deployed

5. Deployment

This is the deployment of the package at the client. The package is run and installed at the client. It is verified and if verification fails packaging is redone. If successful the user testing stage can begin.



Inputs

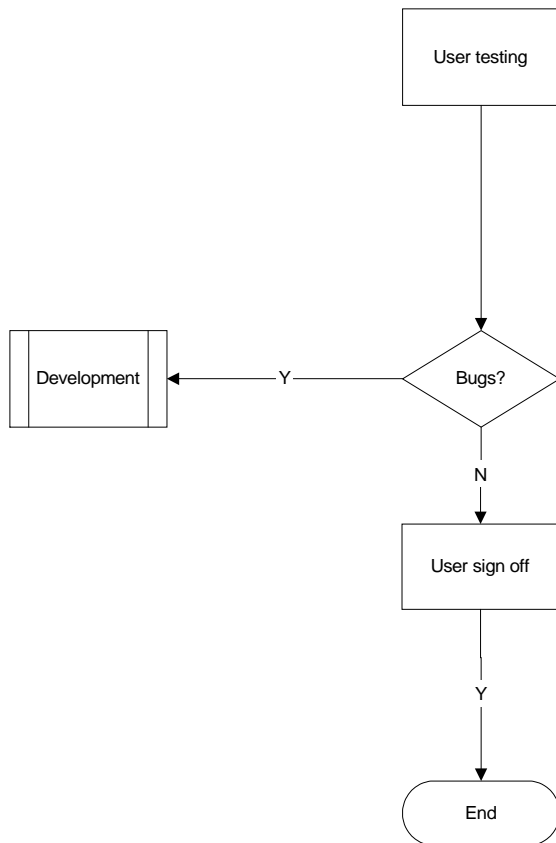
1. Package

Outputs

1. Test site has been installed

5. User testing

User testing is the stage of the project where the client begins to test and verify the work that has been delivered to them. If any bugs are found the work is sent back to the development stage of the project. If not then user sign off is completed. This section is defined by each client.



Inputs

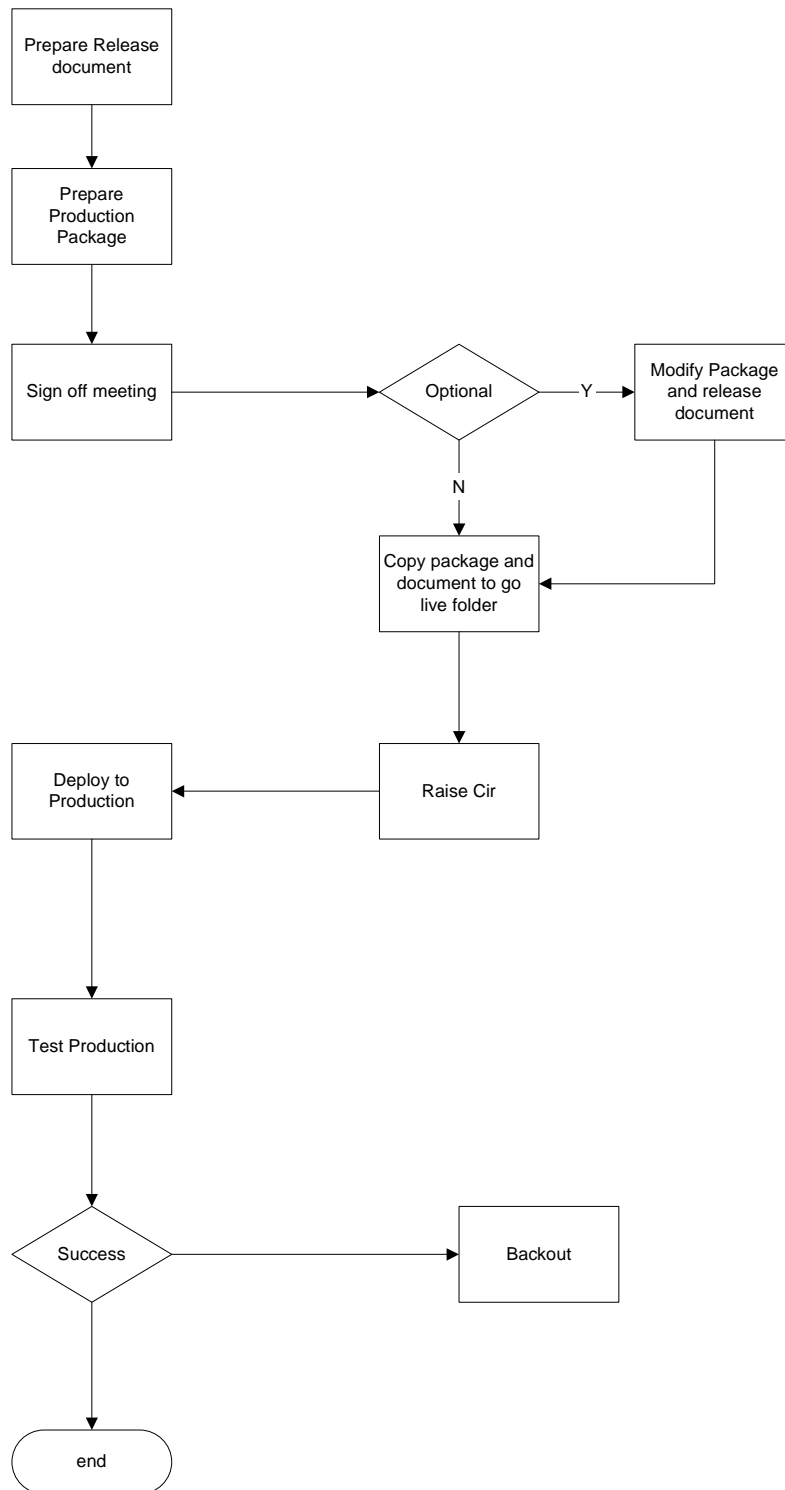
1. Development installed on test site

Outputs

1. User sign off received

6. Implementation

This is the stage of the project where the work has been compiled and signed off and is scheduled to be implemented into the production environment.



A. Prepare release document.

Add the timings and dates of the implementation to the release document

B. Prepare production package.

Update the test package to include or exclude anything picked up during the testing stage

C. Copy package to go live folder.

Copy the package to the folder designated to enliven the files.

D. Raise Cir.

Client to raise any internal documentations or processes that need to be coordinated before production implementation

E. Deploy to Prod.

Implement the package to production

F. Test production.

Test the production environment for the changes and any regression testing.

G. Back out

Back out any changes that are not signed off

H. Sign off.

Client to sign off any changes and implemented work

Inputs

1. User sign off

Outputs

1. Production package
2. Release documentation
3. Development rolled out to production
4. Production sign off

Post implementation

This section is used to outline the successes and failures of the project. A meeting should be held between the project manager and the project team to define what issues/successes were discovered during the project. The project manager should also meet with the client and define what successes and failures there were from there side. All this should be documented and that documentation released along with action points if required.