DRAFT - IT Project Guidance

Discovery:   
Default User Requirements Development

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## Description

This document summarises common expectations of various stakeholders and users of information services, to inform the development of a project’s system functional requirements.

## Synopsis

This document summarises the default expectations for functionality to assist Business Service Consumer Support, General Customer Support, Operations, Monitoring, Security, Maintenance specialist roles.

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## Introduction

Successful IT projects provide automation that decrease the cost and effort to perform repetitious business tasks.

Being costly endeavours they are expected to have long service lifespans to become a positive cost/benefit outcome.

Having long service lifespans means the system must be monitored, maintained and iteratively upgraded to survive to continue to be current and of value to service consumers, while surviving constantly evolving external attack vectors.

Additionally, while the service can reduce workloads for its users, users will require the ability to self-help themselves where possible and assisted support when not.

These tasks are done by different roles, whom benefit from the system’s functionality and qualities meeting their needs.

## Risk

Analysis of system requirements risk being developed based primarily on input from Business SME stakeholders.

## Issue

Projects that do not catalogue a wider set of requirements risk being at risk of failing to deliver to expectations, impacting the project’s, sponsor’s and organisation’s reputation.

## Resolution

Business Stakeholders should first develop a comprehensive map of User Personas and Roles that will use the system over it’s full lifespan. Using the map, they should collect from SMEs of each role requirements for them to do their job effectively.

# System Users Stakeholders

The system is used by a range of users over its full service lifespan. Service consumers and service providers will presumably be using it the whole time, but others user roles may use it more at the start than at the end (e.g.: Maintenance specialists who may pivot to working more on other projects once the system is performing appropriately to meet its needs).

### Unauthenticated (Public) Users

The first set of users are users who have not authenticated yet.

* Users should be able to find the service’s Landing Page(s) on the net.   
  This implies:
  + the page’s metadata and contents must have undergone a Search Engine Optimisation (SEO) process.
  + Other sites, e.g., the organisation’s publicly accessible website, has been updated to have one or more pages of info about the service, and links to it.
* Unauthenticated users must be able to view one or more publicly accessible pages without signing in. This can be just a login page, a home page that provides the means to login, etc.
* Unauthenticated users should be able to use navigation functionality to find publicly accessible pages. This implies:
  + Either the navigation service is context aware, showing only what a user is permitted to view, or there are at least two different navigation configurations – one for public users, showing only a limited of pages, and one for authenticated users, showing a broader range of pages.
* Unauthenticated users should be able to use search functionality to find publicly accessible pages without using navigation functionality[[1]](#footnote-2).
* Unauthenticated users must be able to login.
* The interface’s layout can self-adjust to fit the user device it is being viewed on[[2]](#footnote-3).
* Note:   
  there is no requirement for a layout to be identical on different interfaces as the number of users who may access the same service at the same time via two different user agents (“browsers”) on the same device, is an unnatural use case.
* Note:  
  nor is there a requirement for a layout on a device to match the layout if printed, for the similar reasons.
* Public users must require being provided a link to instructions on how they can request that information is updated (they should not have to join a system in order to ask for reference to themselves be removed from a system).
* Un authenticated users would benefit by being able to sign in using their preferred Identity Provider (Google, Microsoft), and provide the means to avoid repeatedly signing in every time using a “Remember Me” setting.
* Un authenticated users would benefit from the logon process that provides them access to related services in a way that doesn’t require resubmitting credentials (i.e., “Single Sign On” (SSO)).

### Authenticated Users

* Authenticated Users should be able to do all tasks that unauthenticated users can do.
* Authenticated Users benefit from having a personalised page (“Dashboard”), summarising their context within this service (count of and links to notifications, tasks, records processed, etc.).
* Authenticated Users must be able to logout.
* Authenticated Users must be able to manage personal settings within a User Profile. This implies:
  + they have a System User Display Name (that may start with information gained from the IdP but is not locked against change.
  + The system is integrated with a corporate service to obtain their image.
  + They may be able to upload an image to use as a personal avatar.
* Authenticated Users must be able to manage their personal System Preferences[[3]](#footnote-4). This would imply:
  + They can change their interface language-culture,
  + They may change their interface’s style (e.g.: black on white, white on black).
* Authenticated Users would benefit from being able to update information about themselves. After all, users know themselves best, and self-help reduces support costs.

Note:  
in this case we are making a distinction between information *about* a user and a user’s personal profile.

### Business Service Users

The functionality and qualities that would benefit business service consumers is specific to each business case, so are not included in this document.

Example:   
in an education context, this set of users might include extended family/whānau, caretakers/parents, learners, their teachers, the school’s administrators and principal, regional staff, etc.

### Business Service Provider Users

Business Service Providers are those that provide the service used by Business Service Consumer Users.

Their tasks are generally helping users better understand the value proposition of the service, configure their subscription/tenancy/groups for first use, etc.

Business Service provider users would benefit from being able to view Users and the Roles they have in different Groups within the system, so that they can in turn advise users on best practice, etc.

Rarely provided for -- but of great benefit to end users – Users should be able to invite Business Support Service Providers to configure things on their behalf via short term delegation of rights.

### Training Services

The system may require[[4]](#footnote-5) and offer training.

A training environment -- or even just designated tenancies in a production environment – requires being set up for trainees.

The training environment must be accessible from outside physical and/or network boundaries of the organisation, so that workers working from home, and partners from different organisations can take part in the training.

This implies that the environment is integrated with web based IdPs (e.g., Microsoft Account, Google, etc.) that are not constrained to the organisation itself.

Additional to the environment itself, the training environment requires data within it to be prepared for them to be taught with.

Trainers benefit from the ability to Invite Users to Roles within the training environment to participate in training.

Trainers benefit even more from the ability to Accept the Applications from Trainees, as this allows moving the onboarding workload from Trainers to Trainees reducing the number of errors from mistyping trainee email addresses, role allocations, etc.

Trainers benefit from the ability of manually resetting training data between training sessions.

### Customer Service

General customer service (Tier #1) benefit from being able to point users in the right direction for additional assistance.

They would benefit by:

* Being provided an Application Support Guide (ASG) in a format compatible with their practice’s tools (paper, other), which describes the following:
  + Those responsible for the business service provided via the system,
  + To whom and how to direct business support questions
  + Whom is responsible for the system underlying the business service,
  + To whom to direct system support questions
* Being able to be communicated with via a support service within which users can create new tickets, describe their issue, and
* Be able to point users to a self-help website, implying in turn that:
  + A self-help website and copy has been developed, delivered, and there are practices in place to ensure it is maintained in a current state, and released when the service itself is released.

### System Operations Service

System Operators are SMEs specialised in keeping the system by which business services are provided.

They would benefit from being able to:

* Change System Settings without requiring a redeployment,
  + Service Discovery (e.g.: system wide and home page SEO relevant metadata)
  + Appearance (e.g.; banner area service title, subtitle and logo),
  + Footer Links (e.g.: to tracking, data & privacy disclosure statement(s))

### Maintenance Service

Maintenance specialists would benefit from the system recording diagnostic logs being kept for a duration long enough[[5]](#footnote-6) to review them if an incident is discovered. in a way that they can be queried. This can imply:

* diagnostics log messages capture date and time, thread identifier, session identifier, session user identifier, request operation, operation arguments, operation outcomes and errors. All this information helps a maintenance service specialist trace a single user’s steps, distinguishing them from other requests,
* diagnostics log messages are sanitised of confidential information before being persisted (i.e., they are scrubbed of personal identifiers or credentials/passwords, etc.)
* the duration that the log files are kept is a configurable system setting,
* the diagnostic logs are persisted in a manner that they can be later be easily analysed by making them filterable, sortable, pageable.[[6]](#footnote-7)

Maintenance specialists would benefit from the system recording unexpected behaviour (error) messages in such a way they can be easily reviewed and reportable on to sponsor and business product owner stakeholders. This implies:

* error messages do not include confidential information,
* includes the event’s date and time (in UTC), the thread identifier, the session identifier, the user identifier (if authenticated), the session operation request identifier,
* includes the system error message, and the “stack trace” of the system as it stood when the exception occurred, to facilitate the understanding of what caused the exception,
* but is kept light, as
* it is persisted *permanently*,
* in a location and format that it can later be analysed via being queried, filtered, sorted, and paged,
* so that reports can be generated to show that ongoing maintenance is progressing at decreasing the of unexpected errors that are still occurring, potentially also able to report in what general areas unexpected errors are occurring.

Other concerns of maintenance specialists are having the tools to understand whether the infrastructure provided is sufficient to keep the service available, or needs more. This implies:

* the service uses performance counters on its devices to track:
  + the actual number of requests/sec,
  + the average number of requests/sec,
  + the average duration of requests over time (informing whether agreed response durations are being met)
  + the outlier maximum duration of a request (informing where prioritise optimisation work next)
  + the actual CPU % over time on the web server, informing whether the system is handling or struggling to meet request demand
  + the actual Memory % used over time on the web server[[7]](#footnote-8)
* the system reads the performance counters and persists the information in a format and location that is easily accessible by querying tools,
* Maintenance specialists – and end users -- would benefit from being able to Notify Users of planned downtime (e.g.: to perform a system upgrade).

### Monitoring Service

Security/Monitoring service specialists keep an eye on the user and service performance and behaviour.

They would benefit from

* The component of the service alerting them to abnormal behaviour
* This implies the ability to define and record triggers that are
* The service’s diagnostic log records being made available to the organisation’s Security Event and Incident Management service (SEIM). The integration may be done by pushing messages to a target API,

## Non-User Stakeholders

There are a number of non-user stakeholders to consult with when developing requirements for systems.

### Certification & Accreditation Services

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### Legal Services

Legal services benefit from the service meeting its judicial obligations (Accessibility, Usability, Security).

They would benefit from receiving assurances that:

* The service is styled to meet sector obligations (appearance, logos, links, usability, accessibility)
* The service is providing a tracking/cookie statement
* The service is providing a data use statement
* The service is providing a privacy statement

### Privacy Services

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# Conclusion

This document outlines the desired outcomes different User SMEs so that they can be the used as the basis of system (i.e., functionality & quality), transitional and project requirements.

Appendices

Appendix A - Document Information

### Images

[Figure 1: TODO Image 2](#_Toc144995112)

### Tables

[Table 1: TODO Table 3](#_Toc145048484)

[Table 2: TODO Table 2 3](#_Toc145048485)

### References

**There are no sources in the current document.**

### Review Distribution

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### Audience

The document is technical in nature, but parts are expected to be read and/or validated by a non-technical audience.

### Structure

Where possible, the document structure is guided by either ISO-\* standards or best practice.

### Diagrams

Diagrams are developed for a wide audience. Unless specifically for a technical audience, where the use of industry standard diagram types (ArchiMate, UML, C4), is appropriate, diagrams are developed as simple “box & line” monochrome diagrams.

### Terms

Refer to the project’s Glossary.

##### IT

: acronym for Information, using Technology to automate and facilitate its management.

##### ICT

: acronym for Information & Communication Technology, the domain of defining Information elements and using technology to automate their communication between entities. IT is a subset of ICT.

1. navigation can be bewildering, as well as hard to implement on mobile phone screens [↑](#footnote-ref-2)
2. Responsive “Mobile-ready”. [↑](#footnote-ref-3)
3. Referred to as their “User Profile” [↑](#footnote-ref-4)
4. This use case is aggravated when the system does not manage the delivery of high quality usable self-help documentation online. [↑](#footnote-ref-5)
5. 31 days is generally sufficient. [↑](#footnote-ref-6)
6. Consider cloud storage, that can later be queried using cloud analytic services, etc. [↑](#footnote-ref-7)
7. Noting that modern languages generally use as much memory as is allocated, so it’s no longer an easily used metric [↑](#footnote-ref-8)