

Embedding Ethics in Systems Development

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Embedding Ethics

What I want to do is to get away from treating Ethics as something esoteric - remote from our day-to-day activity.

It is easy to see that Quality Assurance is about getting evidence that we are 'doing the right thing'.

But. Hey - that's Ethics! Is QA just 'applied ethics'?

Perhaps explicitly building ethical principles into quality assurance is a way of both giving some stronger foundation to Quality Assurance embedding ethics in systems development.

Let's have a look at Quality Assurance, Ethics & the Integration of both into teaching systems development.

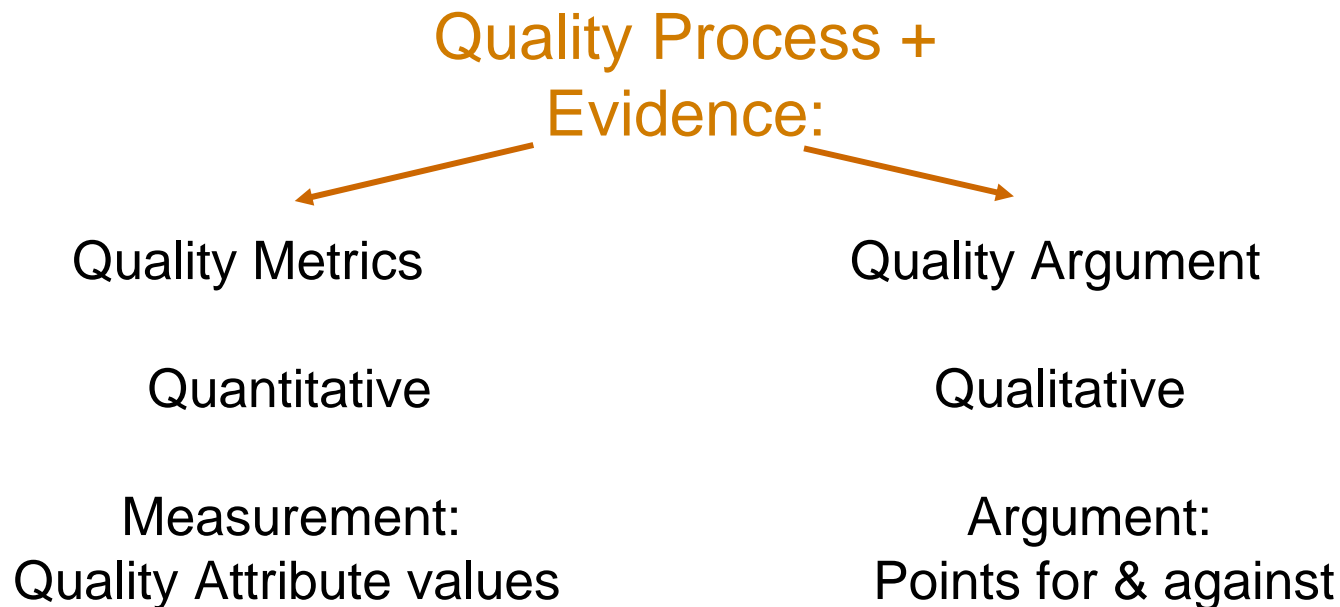
Traditional Quality Assurance

Conformance to requirements:

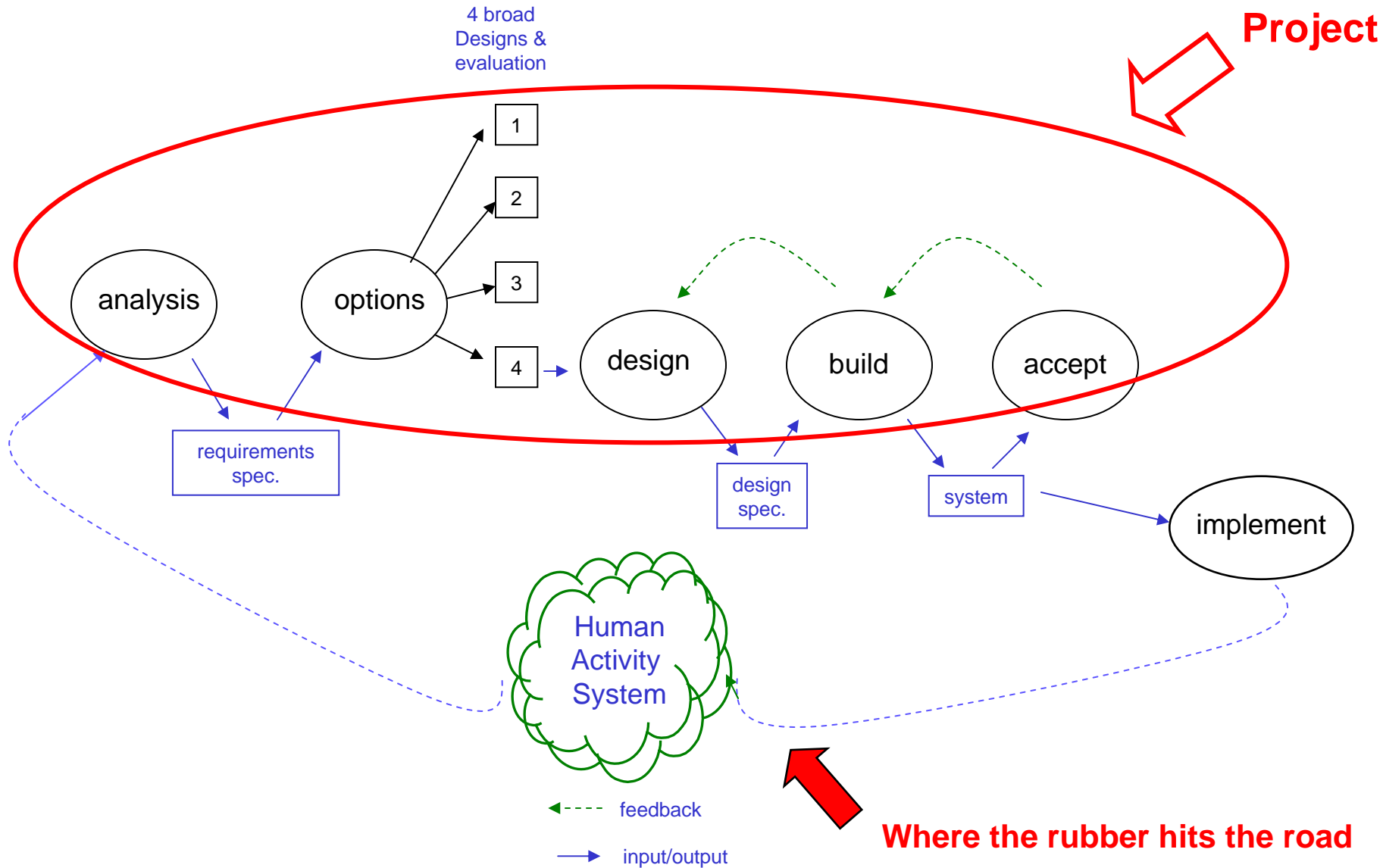
A product meets written specifications

Fitness for use:

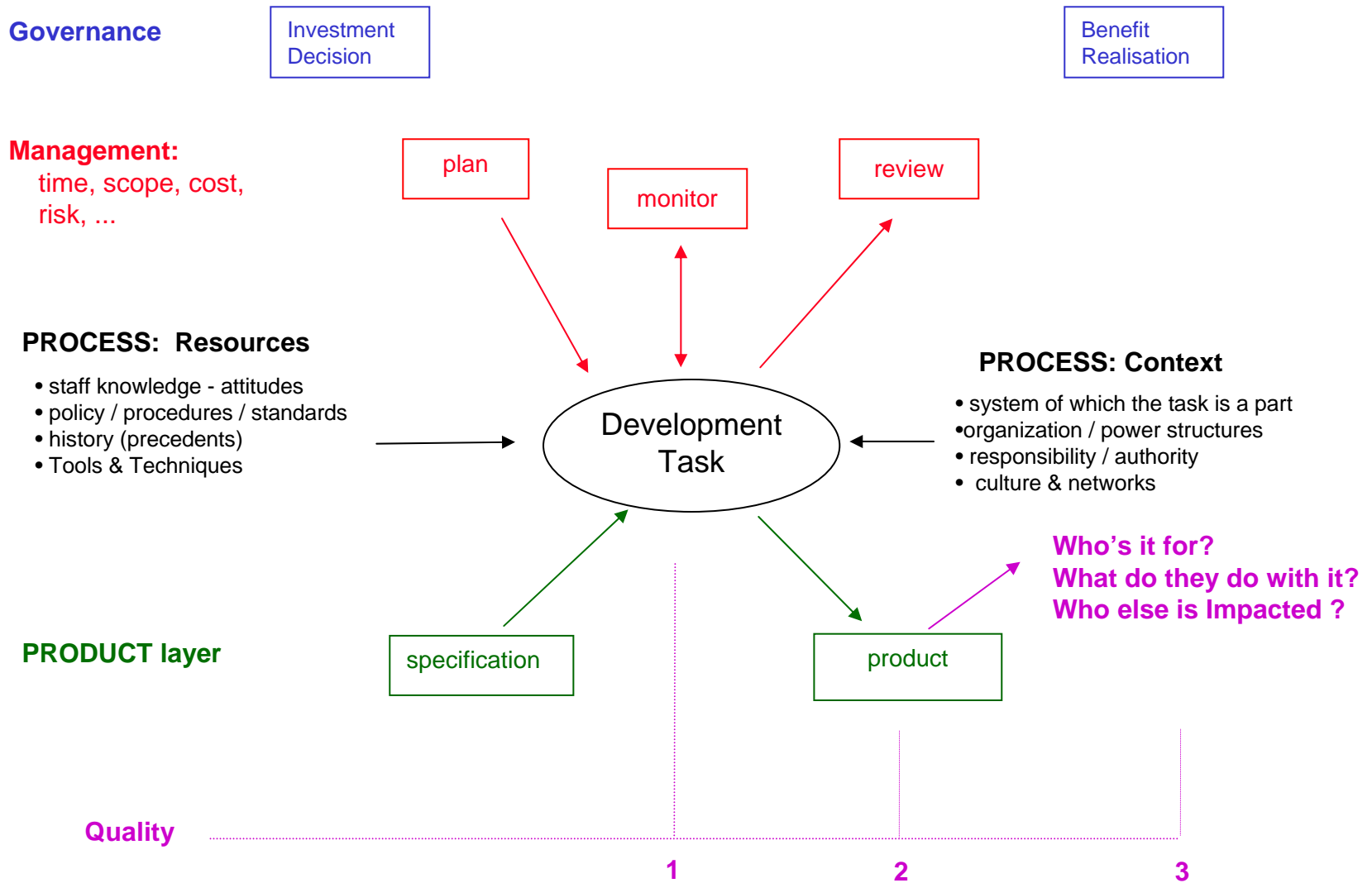
A product can be used as it was intended



A 'Build' Pattern



Quality in Development



Extended Quality Assurance

Product Quality:

Conformance to requirements
Fitness for use

Process Quality:

Clear, transparent, well designed & managed
Fair dealing, improved staff & organizational knowledge
Promoted cohesion & social capital

Impact Quality:

Who is it for ?
What are they to do with it?
Who else is impacted by it?

QA & Ethics: Some Similarities

QA:

Quality assured systems have evidence of 'good' process,
'good' product and 'good' impact on all stakeholders

Ethics:

Being Responsible for your action (or inaction)
knowing who will be affected by your action
knowing the affects
caring about them
accepting praise or blame
being accountable

ICT Ethics: Teaching Approaches

Ethical Scenarios

"A programmer was approached by ... (ACS scenarios)

Ethical Issues

Privacy, Cyber crime, IP, Use of other's equipment,
Surveillance, ...

First Principles

Golden rule,
Kant's categorical imperative,
Utilitarian principle,
Harm Minimization principle, ...

Prescribed Ethics

ACS Code of Ethics, University Research Ethics,
UN Declaration of Human Rights ...

QA & Ethics in Teaching

We've looked at:

- ☑ Ethics
- ☑ QA

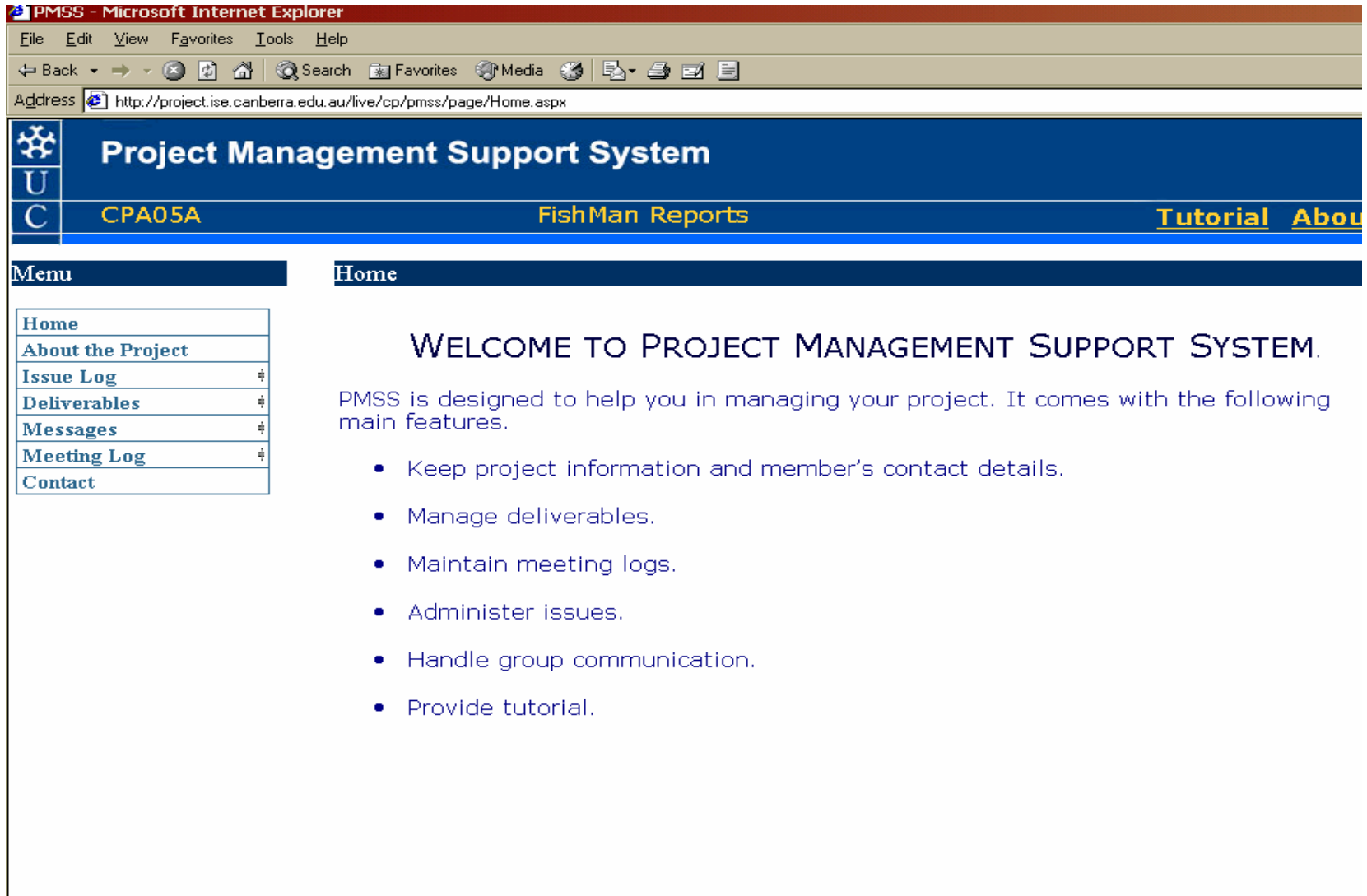
We seem to teach Ethics and QA in different parts of the curriculum.
Ethics in Professional Practice, QA in Project Management.

Can we bring them together so embed Ethics in Systems Development?

We are trying it in UC's units:
'Systems and Project Management'
'IT Project'

We support the units with a '*Project Management Support System*' that is based in the idea of developers' taking responsibility for the impacts the system will have on stakeholders.

PMSS – Project Management Support System




PMSS - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print Mail

Address <http://project.ise.canberra.edu.au/live/cp/pmss/page/Home.aspx>

 **Project Management Support System**

U
C

CPA05A FishMan Reports [Tutorial](#) [About](#)

Menu

Home
About the Project
Issue Log †
Deliverables †
Messages †
Meeting Log †
Contact

Home

WELCOME TO PROJECT MANAGEMENT SUPPORT SYSTEM.

PMSS is designed to help you in managing your project. It comes with the following main features.

- Keep project information and member's contact details.
- Manage deliverables.
- Maintain meeting logs.
- Administer issues.
- Handle group communication.
- Provide tutorial.

PMSS – Stakeholder-Oriented Templates

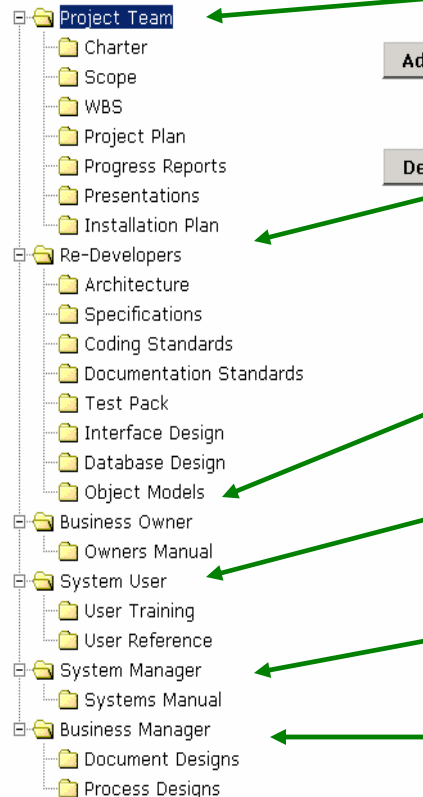
	Project Management Support System	
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Menu Deliverables Addition

Home
About the Project
Issue Log
Deliverables
Messages
Meeting Log
Contact

[Add Your Own Deliverables](#)

Available Deliverables



Stakeholders:

Project team

Re-developers

business owner

user

system manager

line manager

PMSS – QA part of Document Template

SYSTEM OWNER'S MANUAL

1. Contribution to Strategy	2
2. Measuring Systems Performance	4
2.1 EIS facilities	
3. Benefit Realization	6
4. Risk Management	7
5. Audit, Legal and other Compliance Issues	8
6. Quality Assurance	9

6. Quality Assurance

The purpose of this manual is to address the interests of the system's owner by describing the facilities in the system and other methods that the owner can use to ensure the system is meeting needs.

6.1 Stakeholder Validation

This people affected by this product, and their interests, are:

Owner: benefits realisation, manageability

Line Managers: responsibilities, skills, reporting issues

Board: Governance issues

6.2 Process of Document Development

This document was constructed from
meetings with the client (see minute s..)
meetings with line managers (see minutes ...
a review of text books (see Thomsett..)
comparing with the content of other systems owners manuals

6.3 Traceability

Other documents that are related to this is are:

Project Charter - the agreement that specified the scope and character of the system

Business Managers Manual - operational details about workflow

6.4 Verification

This document was tested against other owners manual.
Simulation was used to test the owner's facilities under unusual situations (see test pack ...).
Line managers tested the EIS for accuracy (test ...). Usability was examined (Test ...)

6.5 References

Schwalbe K (2004) Information Technology Project Management *Thomson Learning*

6.6 Document History

Project Evaluation

1. Process Evaluation

Evidence of

Project Planning, Change & Review
Team Management
Information & config management
Quality Process
Risk analysis
 prevention, detection, correction

Reflection

Individual + Peer Review
client reviews

Tutor's Review

Innovation, creativity, originality etc

Client Review

2. Product Evaluation

System Owner

Various Operational users

Line Manager

External Stakeholder

Next Developer

Systems Management

Auditor (lecturer)

3. Impact Evaluation

PIR

(stakeholders)

Conclusion:

The understanding of Ethics is one thing.

But if we want to operationalize Ethics we need to embed it in the conscious actions students take.

QA is a process already well embedded in development.

By adopting a strong stakeholder approach to QA we open the door to embedding ethics in our education too.

Ethics is a foundation for QA!

Embed Ethics in Systems Development

Ethics

Aesthetic : the Beautiful

Political: the Powerful

Economic : the Market Value

Social : engagement

Legal : rules & enforcement

Ethic : the Right

The statement “X is unethical” is

Subjective Statement -

personal experience, current situation & state
not generalisable

Objective Statement -

justified by general rules of behaviour
Social glue & trust, not law of the jungle

Somewhere in between -

depends on cultural uptake by the speaker

All of the above

Subjective Ethics

Emotions (Conscience?) :

Before an act – apprehension, worry

During an act – nervousness, ill at ease

After an act – guilt, remorse

Emotions about others:

Anger, awe, disgust, ..

Objective ('ought') Ethics

The Ethics of Motivation

The Ethics of Consequences

Virtue Ethics:

"... avoid courses of action that would be
irresponsible, feckless, lazy, inconsiderate,
uncooperative, harsh, intolerant, selfish,
mercenary, indiscreet, tactless, arrogant,
unsympathetic, cold, incautious, unenterprising,
pusillanimous, feeble, presumptuous, rude,
hypocritical, self-indulgent, materialistic, grasping,
short-sighted, vindictive, calculating, ungrateful,
grudging, brutal, profligate, disloyal"

Taking Responsibility

Being Responsible for your action (or inaction)
knowing who will be affected by your action
knowing the affects
caring about them
accepting praise or blame
being accountable

Can a responsible action be unethical ?

Can a non-human be responsible ?

a UC committee, a government

The Stakeholder vs the Shareholder view



Responsibility: recognising stakeholders

1. The Gardener

holding the garden stake that can really do you damage
- the client

2. The Gambler

at the table, chips on the felt, knows the game
- investors, unions

3. The Victim

impacted, but not an actor
- customer, employees & their families

4. Gaia

ecological, societal, governmental and economic systems

Limits on Responsibility

To have responsibility for an action (or not taking an action) in some situation, a person needs to have an element of:

1. Voluntariness - responsibility is diminished for an action that is a completely involuntary
2. autonomy - the person needs to have some capacity to choose between alternative actions
3. foresight - responsibility is reduced if its effect simply could not be foreseen

and there needs to be a

4. causal influence between the action and the effect.

(Bittner & Hornecker).

Impediments to Responsibility

Complex organisations & large systems diffuse and disguise responsibility:

difficult for one person to take responsibility as effects emerge from a mix of actions and interactions that can't be attributed to a single person.

Technology and the division of labour in systems developments means that responsibility for certain components may be clear, but liability for the whole is less clear.