People centred patterns framework

There are 7 core elements of a people centred pattern, from which hang other customisable patterns that can be picked and unpicked according to the problem situation.

1. Gather
2. Understand
3. Build
4. Develop
5. Realise

Circling and joining these core elements are the key principles of:

6. Monitoring - is the project within its defined constraints and accessible to everyone?

7. Reflection & Evaluation - are we doing the right thing in the right way?

A project can start from any one of the elements and can move in any direction between patterns as long as when moving from pattern to pattern, the design goes through an reflection and evaluation phase and includes overall monitoring of the project.

Each of these patterns will be described in turn along with their associated sub-patterns.

1.   GATHER

This pattern is about investigation of existing processes and practices. Naturalistic enquiry is a useful method for including multiple paradigms and worldviews to ensure inclusivity and diversity of knowledge is embedded in any system.

Naturalistic inquiry is an approach to understanding the social world in which the researcher observes, describes, and interprets the experiences and actions of specific people and groups in societal and cultural context. We need women researchers talking to women.

Hardiman (1987) describes 'Naturalistic inquiry' or ethnography as a way of gathering information and more importantly knowledge. It is the tacit knowledge that is hardest to elicit and inform any systems design.   Hardiman researched the subject of knowledge elicitation, which are methods used to obtain information for systems. How gender biased are these methodologies? It could be said, they are still as gender biased as they were in the nineties.

The importance of knowledge elicitation should not be underestimated, but as always the issue is the demographics of the people who are involved. I would argue that the definition of experts needs defining here, is it the systems manager or the admin assistant who uses the

system on a daily basis? All perspectives should be considered but importance of response is not hierarchally based. The decision should not be based upon job superiorty but upon value to the project.

1.1. Enrich

This is what any design should do - enrich our lives, not an addiction for likes and clickbait. Every application is organic and everchanging to peoples' need and so it is vital to record any 'nice-to-haves' throughout a project. Cultural and legal changes require design to be adaptable and people can be demanding in their expectations. Low level clerical work is in the majority carried out by women, so shouldn't the design for these systems be carried out predominantly by women?

Regular evaluation of each application is needed, using the questions element to raise any issues. There needs to be a feedback loop to ensure people feel part of the project and working practices, that their opinions are viable, valuable and matter.

1.2 Immerse

Immersion into an organisation enables a more diverse set of opinions to be heard in the design and development process. Most importantly do not set yourself up as the 'expert'. You are there to learn their current ways of working and where the bottlenecks and gatekeepers are. Pursue lines of inquiry that allow the person to feel responsible for their work. Leave them with the knowledge of the current end to end processes and their part in it. Using this approach leads to the best suggestions for improvement.

If the above doesn't reveal the necessary answers, it is time for evaluation of what you are trying to present. What is your reason for being and why would anyone want to use you and your services?

1.3   Questions

This also could be described as who, what, why, when, where and how! The best place to be able to ask the right questions is by observing what the person currently does. Follow their daily processes and discuss with them what the issues are: what goes well, what doesn't, what information is missing, what reports are required and why. What is it they are trying to do that they currently can not? By immersing yourself in the organisation and developing the As-Is processes with the people involved, you can start the engagement process and build trust early on in a project. Conversations should be collaborative and cooperative. Different types of questioning and environments need to be considered to put people at ease and reveal their intuitive knowledge

2. UNDERSTAND

This is where the analyst should be using critical thinking to make sense of the organisational weltanschuung, as according to Peter Checkland's *Systems Thinking, Systems Practice* (1981) Taking all the information and knowledge that has been gathered the analyst now needs to transform this in a logical manner through conceptual models such as As-Is and To-Be process mapping, developing an IT landscape and gap analysis.

To be successful this phase needs to be trans disciplined and multi-disciplinary (Grundy reference)

2.1   Now and future

As analysts, we need to understand the organisational context of the problem situation. From the information previously gathered further in-depth analysis should take place. Where does the organisation see itself in the future? What legislative restrictions are there? All businesses need a strategy to form possible futures.

2.2   Interfaces

Develop an IT Landscape of the current logical systems in use in the business, see example figure 3. This should show all interfaces between systems relevant to the project. Each interface should be recorded to understand what data is retrieved, manipulated or transformed and where it is stored. Each piece of data should only be stored once rather than duplicated across multiple sources.
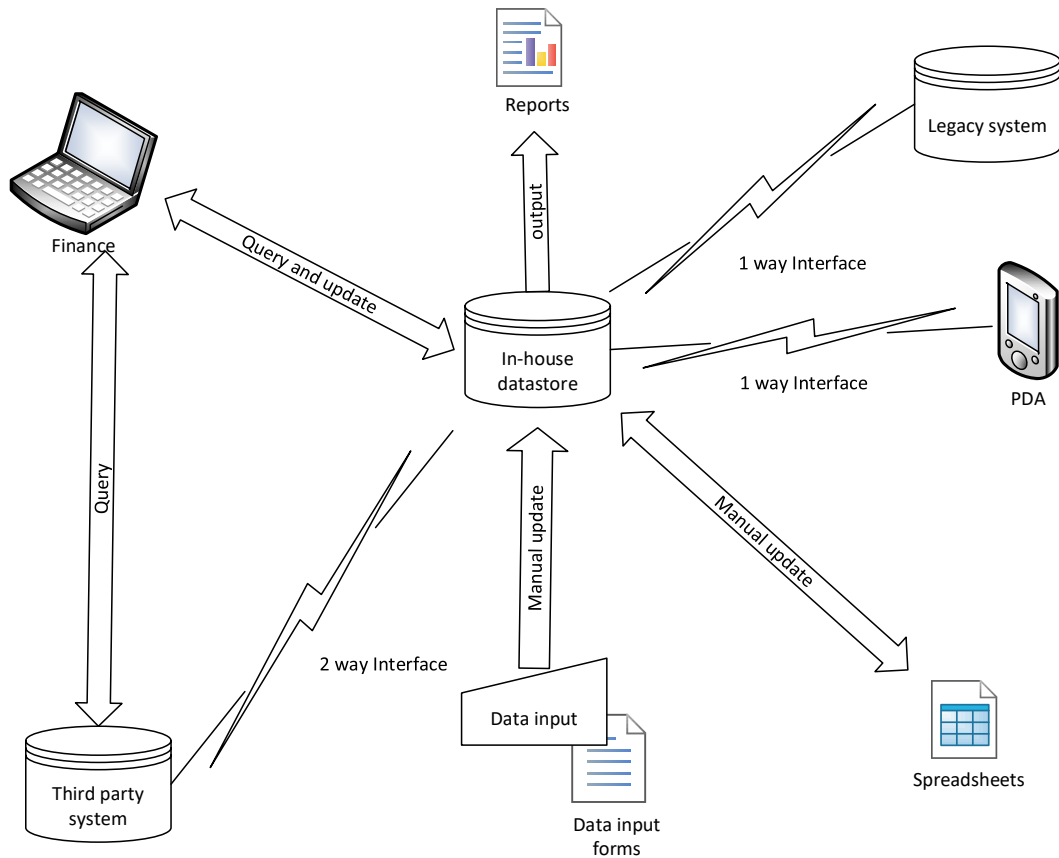
FIGURE 1 SAMPLE IT LANDSCAPE

2.3   People

Analysts need to understand the people involved in any system. This is tricky territory. We have a huge responsibility at this point to ensure there is a diverse range of people. All demographics should be included not just the people groups we are most familiar with or those people who are sent to us (often referred as useless user syndrome - explain) There should be no people bias, not just the white anglo saxon tech cul-d-sac weltanshuung. There is no ideal customer / client / person. We need to design systems which are accessible to all and represent all.

Stop engaging with the tech giant models of promoting hate, misogyny and mental illness and move towards a lighter gentler future. Use all the C's (communication, commitment, co-ordination, and co-operation) of principle 3 and add compassion to the list!

3. BUILD

It is this element that should refer to Jakob Neilson 10 Usability Heuristics for User Interface Design (1994) principles for interaction design. These are heuristics in that they are broad rules of thumb and they not specific usability guidelines.

This is as opposed to locker room methodologies such as Agile. Using sprints and scrum meetings to reduce development time, but completely lose sight of the bigger picture.

Using task analysis, new ways of working can be developed. It may be at this point that critical path analysis and / or gap analysis is required to identify issues in the project and enable the analyst to be proactive to any situations arising in the design.

3.1   Material

Drawing on analysis from now and future states, it is time to draw all the material together to produce coherent end-to-end processes. The earlier in a project the test strategy is defined the better. What resources will be available? How will testing be carried out? By who?

The testing element always ends up being the only training in my experience! Consequently, very little time is dedicated to developing a test strategy and creating diverse data sets to test against. Little automation testing occurs in reality unless in large complex systems. Automated testing is only as good as the person who designed it and so we can encounter the same problems we are trying to resolve.

3.2   Situations

It will become clear by this point that certain types of groups of people will emerge. These groups will have very specific routes through the system according to their needs and knowledge. Others will just be scrabbling about in the dark in the hope they can produce something! Now is the time to visualize these routes in the form of journeys.

The methods used to elicitate the knowledge should acknowledge that users are people not customers or clients. There needs to be more naturalistic enquiry and tools for explaining back to the people what is being suggested or developed.

3.3   Mock-ups

This is dependant on the quality of the requirements that have been gathered up to this point. Mock-ups can be created at any time in the framework as they will be re-visited as more knowledge becomes available. The important thing here is the 'Look and Feel 'of the application. The human computer interface and flow of screens should match the end to end processes and be intuitive to the person using the system.

4. DEVELOP

"Significantly, some of this work has pushed forward political agendas for gender equality, in particular, by focusing on women's agency and use of ICTs for emancipatory ends. Yet, in spite of these contributions, and the evidence provided, gender is often rendered invisible in macro-theorising about social and technological change and indeed in many empirical studies of ICT use."

Eileen Green 'Gendering the Digital'*(2013) The Impact of Gender and Technology Perspectives on the Sociological Imagination*

This is the part of the framework where everything is pulled together, the graphical user interface (GUI) is agreed, the reports defined and testing is underway. Now the project team need to hold the hands of the people, as they see the results of all the previous analysis and design. There needs to be agreement of the rollout process. Is it a soft launch, staged rollout or a big bang? What support is required and most important what is the business continuity plan if all or part fails?

Working for a council rolling out the use of hand held devices to repair staff, on Go Live day, the server had a catastrophic failure. Luckily we had the foresight to print out a weeks worth of job sheets the previous day. We were then able to hand these out to staff to get them working whilst we investigated out how to fix the problem.

4.1   Reporting

What information needs to be displayed? What outputs are required and in what format? Defining reporting requirements at this point is crucial to ensure the system can manipulate the data in the required format. It should be clear that reports are produced on a regular basis for regulatory and legislative purposes. There are also queries which are daily ad-hoc requests for information and any effective system should allow people an intuitive front end for query handling.

4.2   Testing

Developers should ensure all priority requirements have been met. They test that the system does not create any fatal errors when running the program, in the sense the person cannot progress from this point.

Unit testing is carried out by developers, who will only prove the functionality works, not the process is followed and is effective. Developers have a tendency to test that their modules work as per the requirements they have been given. They do not try to break the system. However this is the main purpose of any testing - to test the unpredictable and ensure test cases cover all required scenarios.

Functional Testing is carried out by analysts to ensure navigation through the screens is as previously defined and that all validation and verification performs as expected.

User Acceptance testing needs to test the full end-to-end processes, required reports, user access levels etc. It should also use real life data the most complex of cases to really test the system. It is also important to make the number of scenarios and test cases manageable to the size of the organisation. This can be done by rationalising. Any error messages produced should be meaningful to the the person using the system at any point in time..

4.3   Ownership

Involve the people at every stage of the project, so by the end they feel in control of their processes and systems. Hold process walkthroughs and provide as much information to people as possible. Bulletins on noticeboards, e-newsletters, opinion polls, surveys etc. At this point in a project there should be a clearly identifiable set of stakeholders, from all walks of the the business. Some will be early adopters of the systems and their enthusiasm should be harnessed to bring others on-board.

5. REALISE

"We are a growing vanguard of young and old who share a sense of righteous indignation and a demand for action. "Let there be a digital future," we say, "but let it be a human future first."

The stage is set for the big work of 2021 and the decade ahead. If we are to bend the arc of the digital back toward the light, we need public education, democratic mobilization, and political leadership. We need the creativity and courage to revitalize our frameworks of human rights, laws, and regulations for a new epoch. This next decade is pivotal. It's all hands on deck." Shoshana Zuboff (2020) The Age of Surveillance Capitalism

This is where all the hard work comes together and the patterns are complete. For now! The applications have been built and signed off by the the project people. Social media accounts are created and a strategy for the maintenance of these platforms has been written. This is the time for reviewing the work to date, identifying future requirements and any lessons learnt, and to release the applications into the real world.

5.1   Training

Give people an overview of the end-to-end processes so they can understand where their role fits into the bigger picture.

Use real life cases to train people, with most complex scenarios to ensure all areas are covered. Train the trainers, so information can flow throughout organisation. Produce meaningful manuals that describe according to work processes and tasks. These should be living documents that can be added to over time. If produced well they can be an induction manual as well as help guide.

When putting screenshots into manuals make sure it is dummy data - never use client data!

5.2   Sign-off

This is the formal or in some cases informal handover of the updated systems to the business. Any major bugs are identified and resolved and the business is able to operate as required. Any outstanding features not implemented become the next phase of the project and feeds into the enrich pattern.

5.3   Review & upkeep

Regular reviews of the new systems should be held as some of the functionality will only become apparent periodically, monthly returns for example. Analysts must be available to help resolve any teething problems and to carry out additional training or bug fixing if necessary. Often it is not until a system is used in anger that some of the built in 'features' identify themselves as bugs requiring fixing. It is only be having a period of time after the sign-off pattern with analysts still providing onsite support.