

CREATING A
COMPLAINTS
APPLICATION USING
MICROSOFT'S POWER
PLATFORM

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BACKGROUND



- Caredig is a non-profit social housing company based in Wales.
- Housing around 22,000 homes within Swansea, Carmarthen, Neath, Port Talbot, Ceredigion and Pembrokeshire.
- Caredig utilises the Microsoft suite and Power Platform. E.g. SharePoint, Power Automate, Power Apps
- Current complaints application is seen to have flaws
- Creating an improved complaints application within the Power Platform



OVERVIEW OF POWER APPS

- Allows users to create applications with processes using a no code system
- Multiple data sources and be utilised and integrated
- Accessible with mobile devices and computer systems

	Standard Power Apps	Premium Power Apps
Price	Free	\$22
Environments	3	Unlimited
Database storage	2 GB	2 GB
Processes	750 per month	Unlimited



Premium features – no-user automation, AI integration, scaled security and governance

Power Apps

OVERVIEW OF POWER AUTOMATE

	Standard Power Automate	Premium Power Automate
Price	Free	\$15 per month
Connectors	Standard only	Premium, custom and standard
Database storage	None	250 MB
File capacity	None	2 GB
Managed environments	No	Yes

- Optimises process mining and automates tasks
- Processes with either cloud and standard flows
- Hosted bot allows for virtual machines or unattended flows

Power Automate



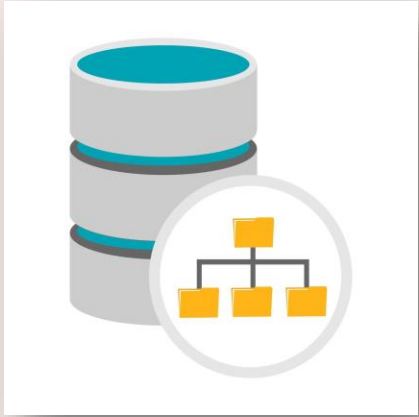


SharePoint

SHAREPOINT OR DBMS?



- SharePoint is a central point to access and save information in a business setting
- SharePoint can search files, support scaling and implement security
- Two available services; Microsoft Office SharePoint service & Windows SharePoint Service
- MOSS – commercial system built around business use
- WSS – free service located within the windows server
- Limitation of SharePoint is simple search function and cost of licensing



SHAREPOINT OR DBMS?



- Windows SQL servers (DBMS) allows most data connectors and full control of data within a dedicated database system
- Uses SQL as a primary language and contains tools and components
- Scalable features, low hardware requirements, optimised performance and control
- Can be accessed within a cloud server or a native home server
- Limitations of Windows SQL server is cost and complexity



METHODOLOGY



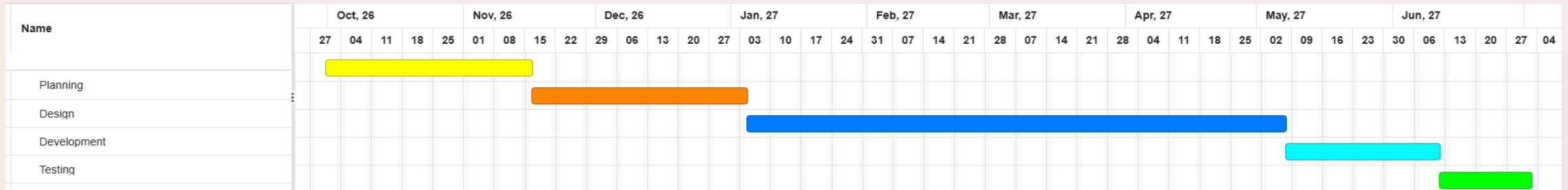
- Two methods to adopt; waterfall method and the agile method
- Waterfall method is commonly used for software development
- Agile method is a loop system within user feedback and testing

Waterfall method	Agile method
Analysis, design, implementation, testing, operation and maintenance	Analysis, planning, [testing, development] repeat until user acceptance testing approval
Solid structure and easy design. Full control of resources. Inexpensive	TDD – decreases bugs and errors, increases quality model FDD – high-quality adaptation
Cannot fix unexpected errors when deployed. Stuck on re-occurring sections	TDD – can repeat failure. Not suitable for multi-function testing FDD – specialist skills to construct. Not suitable for critical error testing

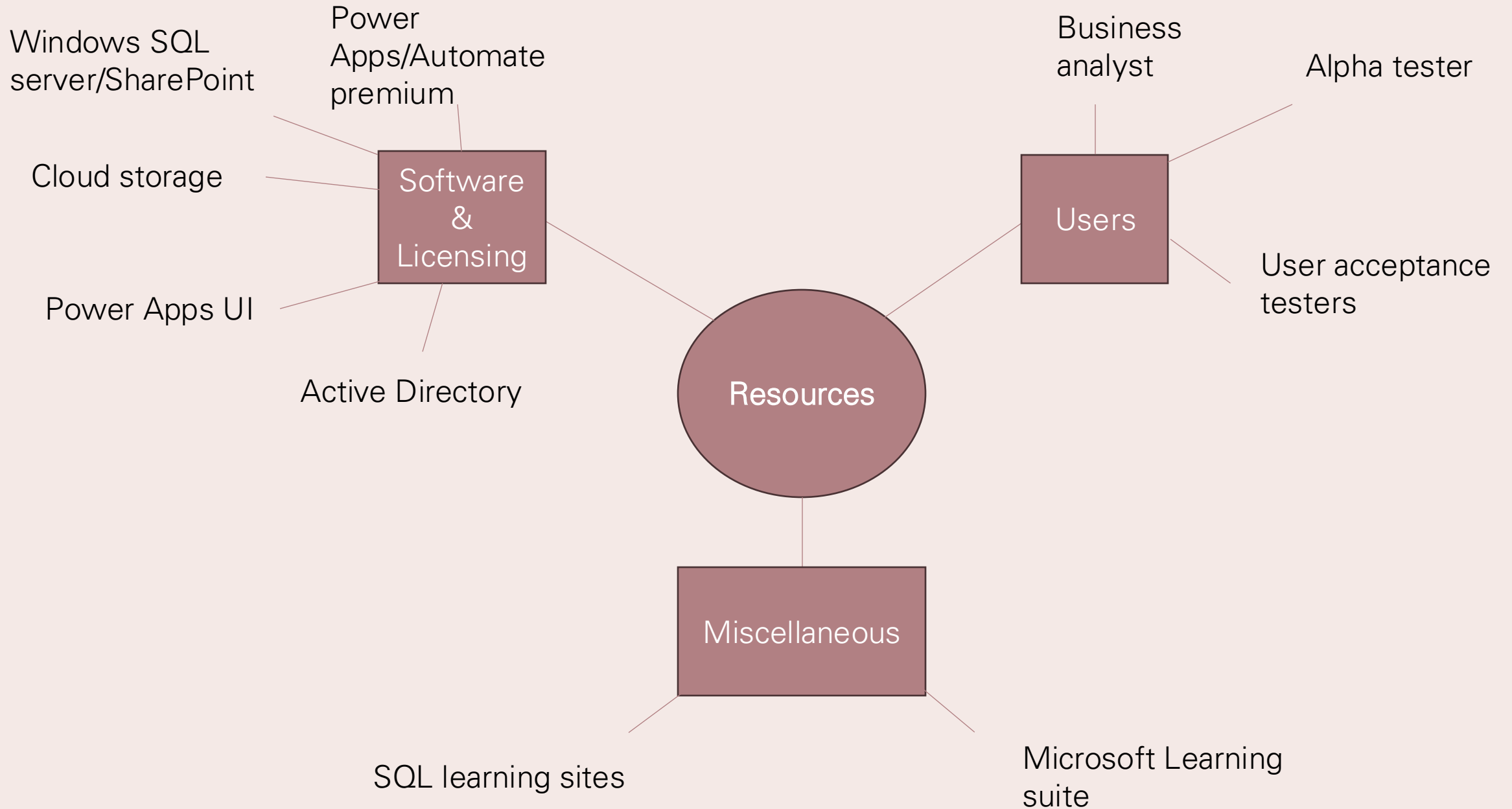
TECHNIQUES

Technique	Function and benefits
Good coding practices	➤ Decreases time for errors and maintenance ➤ Four 'C' goals; Correctness, clarity, containment and consistency
Implementation with security and governance	➤ Monitoring and management with resources, responsibilities, strategies ➤ 4 levels within PowerApps regarding data and regulation standards
Automation	➤ Integrated with Power Automate for workflows ➤ Task scheduling, workflow automation can be set

PROJECT PLAN



- Gantt Chart, as seen above
- Planning – User feedback. Process mapping. Time: 1.5 months
- Designing – Workflow process mapping. Database overview. UI overview. Time: 1.5 months
- Development – Coding for Power Platform and DBMS. Time: 4 months
- Testing – Group user testing. Feedback collecting and improvement: Time: 1 month (if needed, can extend)
- Deployment – Documentation of model. Deployment of the model. Maintenance on the model, if required





LIMITATION

Database overview	complex, resource heavy, costly, licensing fees
Power Platform	High volume flows, unstable within major processes, compliance or user issues
Model overview	Web-based software, vendor locked

CONCLUSION

- Testing environment allows standard licensing of application; however premium licenses must be invested in for all user wide deployment
- SharePoint may be used for testing and deployment but utilising an DBMS would improve the model
- Waterfall method with good code conduct, security, governance and automation
- Model accounts for limitation and resources have been listed