Southwark Council, Hackney Council, Greater London Authority, Connected Places Catapult & Unboxed

A user-centred back-office planning system Discovery phase report

April 2019

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Context

Problem statement

Local authorities lack a user-centred solution providing back-office case management, transactional functions and database necessary to efficiently manage a planning service.

Planning services are currently dependent on proprietary solutions that are developing slowly and resistant to interoperability. The market is dominated by just two providers and commercial incentives to support innovation are low.

The practical problems associated with poor quality software create challenges for the effective administration of the national planning system.

The cost of the problem

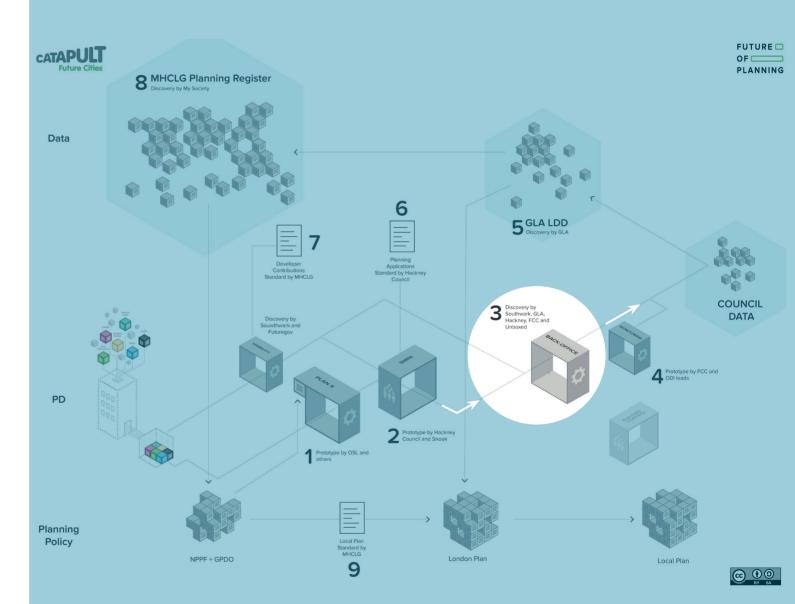
- High cost of change projects cost >£1m
 to transition from one provider to another and
 are lengthy and resource intensive
- Hackney estimates it spends >£250,000 in administration time
- Future Cities Catapult found that planning authorities in England receive ca. 450,000 planning applications a year. A typical household application takes 4-7 hours to process, yet ca. 50% of these are returned as invalid because they lack the right information. Assuming an average salary of £50,000, ca. £500M is wasted annually across the UK.

Source: https://localdigital.gov.uk/funding/london-borough-of-southwark-3/

Part of a bigger system

Efficient back-office planning software is a critical component of a future digital planning ecosystem.

In order to support this wider system and evolve with it, the new back-office software will need to be able to change rapidly, be based on common and open application and data standards, and remove supplier lock-in.



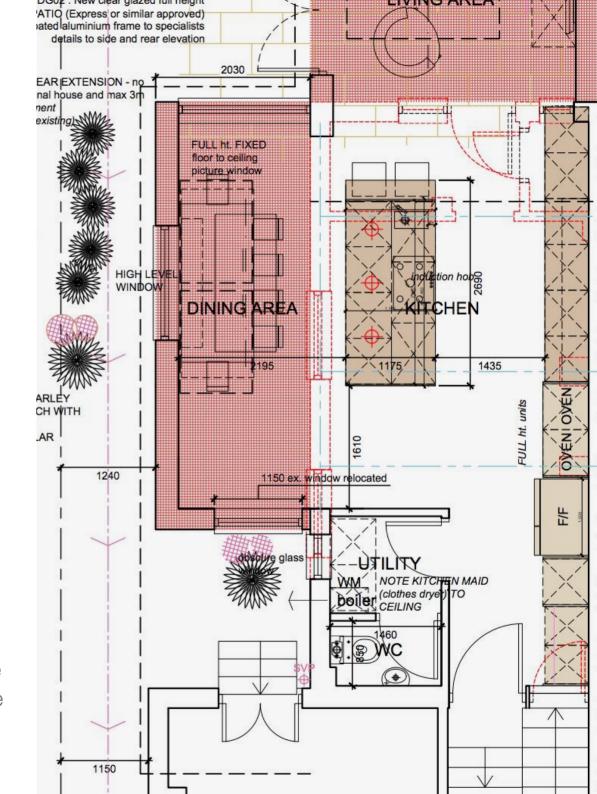
Long-term project vision

To create a user-centered back-office planning system that makes planning data and records easily accessible, increases efficiency across the planning application process, and fits the needs of its users (Planning Officers).

Discovery phase goals

This *Discovery* phase aims to provide a better understanding of:

- The user needs of planning officers and other stakeholders
- The potential scope of a new system to meet these user needs
- How a new system might bring together other projects in the PlanTech space
- Potential benefits of a new system and how to measure success
- The **team** required to deliver the next phase (alpha)
- The design principles that should inform the new system
- The data standards and technical architecture needed to support the new service
- What should be considered out of scope for the new service



Discovery phase team

The core team structure for this discovery team:

- Product Owner (Southwark Council)
- Senior Service Designer (Unboxed)
- Technical Lead (Unboxed)
- User Researcher (Unboxed)
- User Researcher (Hackney Council)
- **Developer** (Unboxed)
- Delivery Manager (Unboxed)

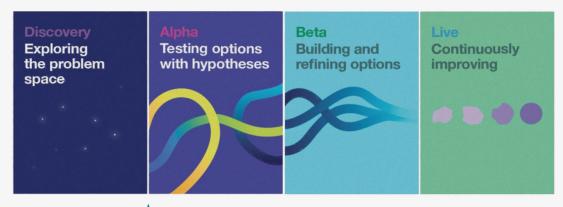


Our approach

Aligned with GDS Service Standard

Our approach is aligned with the <u>GDS Service</u> <u>Standard</u>, <u>Local Government Digital Service</u> <u>Standard</u>, as well as the <u>Local Digital Declaration</u>, of which Southwark were co-publishers.

Discovery is the first phase of this approach, designed to explore the problem space by better understanding user needs, business needs, policies, and technical constraints through primary and secondary research.





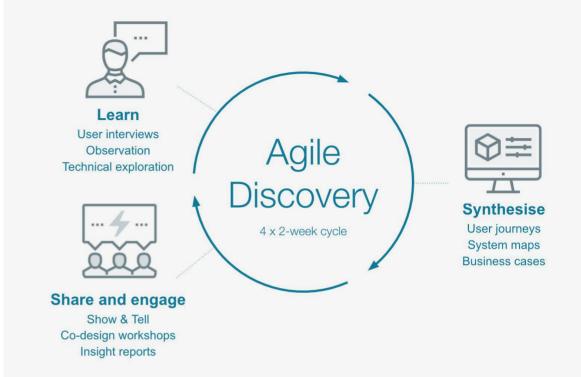


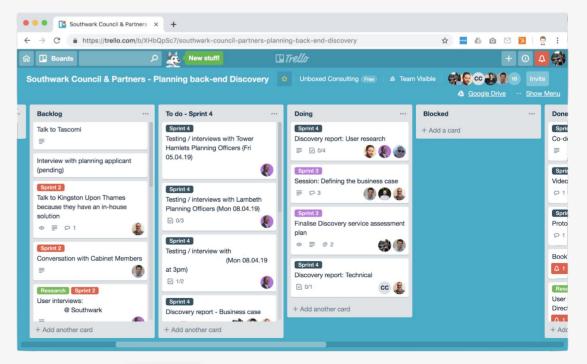
An iterative, Agile discovery

Our multidisciplinary project team worked within the framework of Agile sprints – short, two-week learning cycles.

Each sprint included activities to learn, synthesise, and share new knowledge, ensuring:

- User needs have been prioritised at the forefront of project direction and any key decisions
- Continuous learning and adapting to change has been central to our approach
- Short sprint learning cycles have been implemented — making, testing, and learning in order to respond to user needs





Discovery phase roadmap

The team has worked across **8-weeks** (**4 sprints**), visiting three different sprint themes and setting four individual sprint goals to form our discovery phase roadmap:

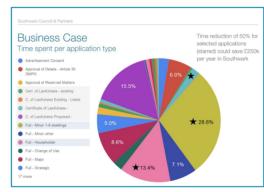
8-week discovery phase			
Sprint 1	Sprint 2	Sprint 3	Sprint 4
Sprint commencing 14/02	Sprint commencing 28/02	Sprint commencing 14/03	Sprint commencing 28/03
Sprint theme: The pain of Planning Officers and understanding of the wider technical system		Sprint theme: Identifying opportunities for future concepts	Sprint theme: Concept creation and informed recommendations
Sprint goal: To gain a cross-council understanding of the pain points of the current system(s) and identify opportunities	Sprint goal: To gain a clear understanding of the main end-to-end back office planning process opportunities	Sprint goal: To gain an understanding of the "jobs to be done" across the application process	Sprint goal: To get concepts into the hands of Planning Officers and tested for feedback, alongside further user research

Activity themes

The team have been exploring four individual activity themes, consisting of:









User research

Contextual face-to-face interviews

Shadowing Planning Officers using existing back-office systems

User journey mapping

User story formation

Emerging design principles

Technical exploration

Tracking data through the current planning application systems and processes

Investigating emerging data standards across other related systems and projects

Business case definition

Exploring cost per application type across different councils

Identifying opportunities based on time spent per application per team

Concept creation

Co-design workshops with Planning Officers

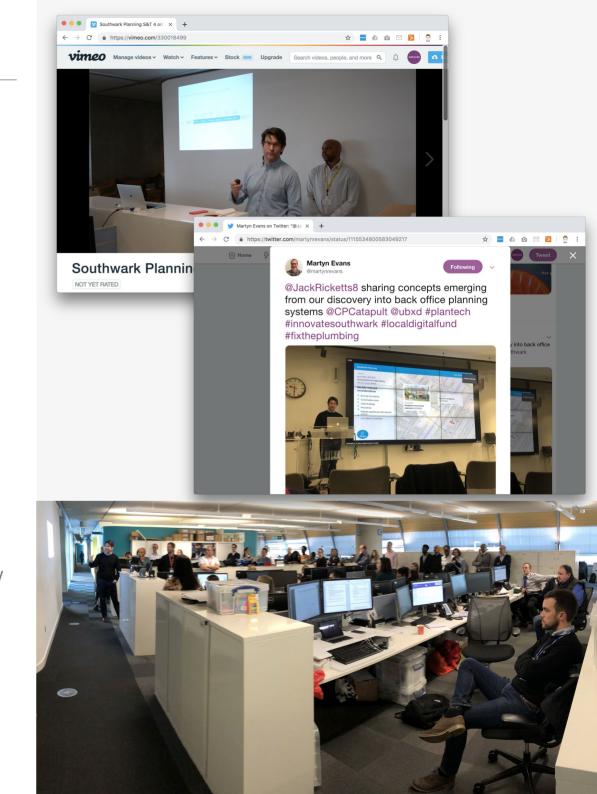
Creating a series of concept prototypes, based on emerging user research

Testing concepts across London and non-London council teams

Collaborating and openly sharing

Throughout this phase, the team has been openly sharing progress with key stakeholders within the planning ecosystem, along with wider audiences, through:

- Weeknotes and project blog sharing weekly team progress via the Innovate Southwark public platform
- Show & Tells each sprint both internally at Southwark Council, and externally at ALBPO-TS and <u>Connected Places Catapult</u>
- <u>Video recordings</u> of key activities, including Show
 & Tells and co-design sessions
- Close collaboration with PlanX, Hackney's Submit my Planning Application, GLA, and others around data standards through open communication channels, regular meetings and event attendance



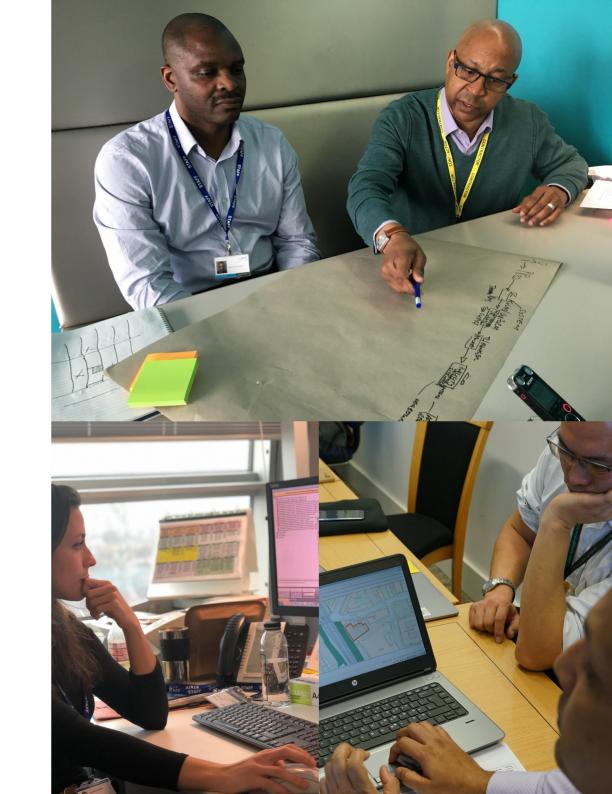
User research findings

As part of user research, the team carried out:

- 17 x user interviews with planning teams
- 2 x existing system demonstrations
- 3 x insight and co-design workshops
- 4 x planning application process shadowing sessions
- 12 x back-office concept prototype testing sessions

Engaging with:

- 7 x London borough councils (Southwark, Hackney, Redbridge, Tower Hamlets, Haringey, Lambeth & Islington)
- 1 x Metropolitan district council (Leeds)
- 2 x other councils (Canterbury & Huntingdonshire)



Key insights and opportunities

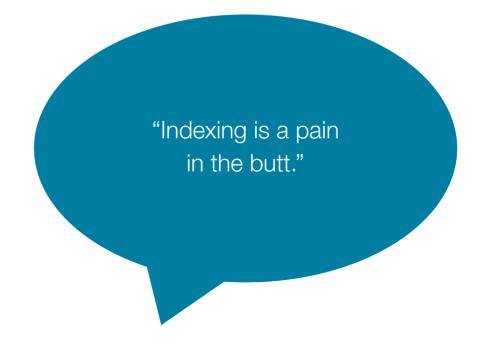
Poor quality of submissions means more work downstream

Opportunity for standardisation

"There's always something missing, i.e. existing plan, location plan, incorrect fee."

Certain manual tasks seem unrewarding and unnecessary

Opportunity for automation



Key insights and opportunities

Need to focus planners' effort where it's needed

Opportunity to make planner's job more rewarding

"A case officer should be making assessments ... not doing administrative work that can be solved by the right system."

Managing public perception is a strong driver influencing planners' work

Opportunity for more open communication

"We want to adopt what they did in Westminster ... look online and you know what stage it's at."

Key insights and opportunities

Usability of back-office system could be improved, especially for more junior staff

Opportunity to reduce learning curve & improve task management

"If you know what you are doing, it's not so bad."

Planners unable to take advantage of existing and future technologies

Opportunity to revamp how planning application are processed

"... VU.CITY provides accurate 3D models of cities..."

Stakeholders

We identified a number of stakeholders of a back-office system, from both inside and outside a typical Planning Authority.

The highlighted stakeholders are those whose needs and pain points formed the focus for the discovery.



Technical Support



Planning Officer (Junior)



Planning Officer (Senior)



Team Leader



Group Manager



Head of Planning



Enforcement



Strategic Planning

Inside Planning Authority

Outside Planning Authority



Applicant



Developer



Architect / Planning Consultant



Residents



Residents Association / Conservation Committees



Councillors



London Government



MHCLG

Personas and user groups

We identified four main types of users that could directly benefit from an improved back-office planning system.

We created personas to represent each group and help us clearly communicate user needs.



Technical Support Officer



Graduate Planning Officer



Planning Manager



Strategic planner

Technical Support Officer

Roger is a planning technical support officer with 3 years experience. He processes planning applications coming through the Planning Portal and makes sure they are stored correctly on the system.

Roger's key responsibilities are:

- Validation checking that applications comply with requirements
- Indexing naming and classifying submitted documents
- Reviewing consultation responses

Roger's user need: Manual processing involved in every application could be simplified, as it's repetitive and labour intensive.

"We shouldn't be doing all this data entry. It's the same information that applicants have already loaded into the Planning Portal."



Graduate Planning Officer

Ciara is a recently graduated planning officer. She has been in post for 6 weeks and is slowly finding her feet, but her development is hampered by working with a back office system that's not very intuitive.

Ciara's key responsibilities include:

- Consultation identifying and contacting the relevant consultees
- Assessing the application make a site visits, reviewing relevant policies and requesti alterations if needed
- Making a recommendation and sharing the report for review

Ciara's user need: Guidance related to type of applications she is working on so she knows which factors to consider.



Planning Manager

Laura is a Team Leader overseeing a team of five Planning Officers.

She regularly sits down with Officers to review the recommendations they have made, in relation to planning applications that have assessed.

She's aware of the lengths her officers have to go through to ensure the application is in shape for review.

Laura's user need: That her team can spend more of their time working creatively with applicants & agents on producing a satisfactory outcome and less on making sure the data within the application is correct.



Strategic Planner

Ken is a strategic planner working as part of a three person team overseeing the regeneration of an inner city brownfield site.

The decisions Ken makes are informed in part from data received from applications for large scale developments, being processed by the Planning department.

Ken sometimes feels, however, that applicants try to hide things by sending impenetrable reports with barely written qualitative summaries. Ken then needs to evaluate this data and recalculate the figures, to understand the true nature of the situation.

Ken's user need: Accessing the same raw data as the applicant so that he can tabulate for his report.

"It might be easier if there was a shareable database and then I could use it to tabulate the data for my report."



As-is back-office journey and user stories (for simple 8-week applications)













Stages

Allocation of daily tasks

Reception

Validation

Consultation

Assessment

Recommendation

Decision

Reporting

Actions

technical support. planning officers. and managers

Track backlog and due dates

Allocate cases to officers

Send acknowledgement

/ receipt to applicant Index received documents Plot GIS coordinates

Transfer and store files

Scan and upload

Categorise application

Understand validation criteria

Check and validate (national and local requirements)

Request additional details if needed

Send validation notice to applicant

Publish on planning register

Identify and contact consultees

Site notice

Ads in local press Receive and redact

consultation responses

Site visit, upload photos

Review consultation responses

Review relevant policies

Review related cases Assess amenity factors and other considerations

Request alterations if needed

Extension-of-time if needed

Define application 'conditions'

Write report

Share report with superiors

Arrange delegation panel (single person or committee)

Review proposal and recommendations

Approve or reject Send decision notice

PS1 and PS2 reports for MHCLG LDD data feed

User stories

As a tech support officer I need a way to streamline repetitive administrative tasks so that I can work more efficiently

As a tech support officer I need a way to consistently extract application data so that it can be available for reporting and analysis

As an applicant / agent I need to know where my application is in the process so that I can better understand time-scales

As a graduate officer I need guidance related to the type of application I am working on

> so that I know which factors to consider for assessment

As a planning officer I need easy access to relevant policies, amenity info, and related cases so that I can produce better recommendations faster

As a planning officer I need a way to reuse wording for recommendations from similar cases

so that I can work more efficiently

As a planning manager I need to be confident that planning officer have made good recommendations so that I can quickly issue a decision

As a strategic planner I need open data about planning applications so that I can create plans that better serve public needs

Existing back-office systems

The majority of local authorities get submissions through the **Planning Portal** and then use either **iDox Uniform** or **Northgate M3** to process the applications. Each planning authority, however, has adopted a slightly different process and configured their systems accordingly. Problems that we might encounter in one planning department might be solved by a different setup in another, despite using the same provider.

Existing IT systems currently in use by our research participants

Application submission systems

Planning Portal

iApply

Post & emailed

Hackney SMPA (future)

PlanX (future)

Back-office systems

iDox Acolaid

iDox Uniform

Northgate M3

Northgate iLAP

Agile APAS

Tascomi

Arcus

DEF Mastergov

Supporting systems

File storage

(Therefore, Info@Work, ...)

Planning registers

(usually connected to back-office)

GIS (local spatial layer info)

VU.CITY

Comparison across local authorities

Differences

- Differences in common application types (e.g. more householder applications outside London)
- Differences in approach to enforcement
- Local communities in some boroughs are more organised, leading to participation in consultations
- Differences in team responsibilities
 (e.g. validation sometimes part of tech support, sometimes planning officer)
- Differences in internal IT support
- Differences in GIS data and licensing

Common patterns

- Mandated application forms and Planning Portal used for majority of application submissions
- National policy and requirements
- Classification of development types (PS1/ PS2)
- High-level process stages are broadly the same
- Need for integration with other systems (e.g. payment)

Technical findings

Planning data flow

Existing data flow (often manual) Potential data flows (standards based) Current projects Existing systems **Design/Visualisation Tools London Development Back Office Planning Database System Discovery PlanX** GLA Unboxed, Southwark, Open Systems Lab, Hackney, GLA Southwark **Submit my Planning Application Single Register of Planning** Snook + Hactar, Hackney MySociety, MHCLG **Existing Planning Planning Portal Systems Local Planning Registers** Replacing in Southwark and Hackney **iApply** Idox

Planning data "cloud" concept

Data currently moves backwards and forwards through a series of data silos.

Data standards are being developed to improve this data flow.

We are proposing a conceptual model whereby planning data sits in a "cloud" with multiple contributors.

Data flows via APIs with varying degrees of access permission.

Communication between different parties may be integrated into data flow via email/sms/Notify.

Applicants

Submit info View progress Receive requests Update info

Direct, PlanX, Planning Portal, Hackney SmPA, Other 3rd Parties

Council Planning Team

Validate submission
Request info
Submit comments
Update progress
Post decision
Manage conditions

Public

View information
Receive consultation
notifications
Comment on applications
View history

MHCLG

Extract national data

GLA

Extract London data

Statutory consultees

Receive notifications
Comment on applications

Data standards

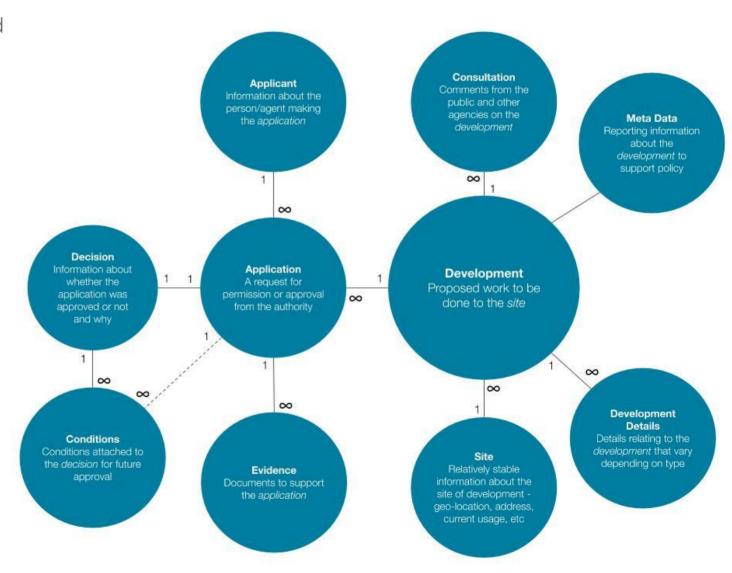
There is currently lots of activity around planning data standards with a great deal of overlap between the various projects.

There is a healthy dialogue amongst the different teams working on these projects and a strong drive towards alignment.

Back office systems are an essential factor in the flow of data from pre-application to national reporting.

We have identified the high level data entities required.

As this project develops, we will continue to participate in this dialogue and ensure that our system supports the emerging standards.



Standardising data

List of projects currently concerned with the standardisation of planning data in the UK



Open data incentive scheme

An attempt to standardise planning data from 2013-2015

Not widely adopted

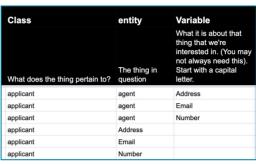
Local government, Hampshire council

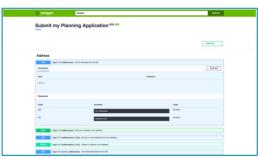
1App

Planning portal's schema

Imported into the various back office systems used by LAs

Planning portal





mySciciety Design patterns Planning data EXPERIMENTAL This pattern is currently experimental because more research is needed to validate it.

3.0 Additional Information to be Submitted as part of any Planning Application This information is in addition to the information already required as part of the standard 1APP schema. 1. Site Information (i) Title Numbers – all land included within the application site (ii) EPC Number – Most Recent EPC completed (iii) Existing Use of the Building (Use Class) (iv) Are the existing buildings Currently Occupied (prior approvals only)? (vacant/partially vacant/occupied) 2. Information Submitted in Support of the Application (i) Viability Assessment (Y/N) (ii) 3D Model (Y/N) (iii) Circular Economy Statement (Y/N) (iv) Air Quality Assessment (Y/N) Ensemu Statement (Y/N) Ensemu Statement (Y/N)

PlanX

"Passport" schema mapping planning policy to data variables

Open Systems Labs, Southwark

https://beta.planx.uk/ default

Submit my Planning Application

Schema based on the householder application process

Snook & Hactar, Hackney

http://smpa.hactar.is/#show

Single Register of Planning

"Design pattern" for LAs to report to the National Planning Register

MySociety, MHCLG

https://digital-land.github.io/project/single-register-of-planning/

GLA Planning Data Standard

Data needed to inform and monitor London policy

GI A

https://www.london.gov.uk/sites/default/files/updated non technic al planning data standard.pdf

Design principles

Design principles for a new back-office planning system

1 Ensure a sustainable agile team to support implementation

Create a service using the agile, iterative and usercentred methods set out in the Government Service Design Manual.

- Use open standards and data
 Use open standards, and where possible make service data open and reusable under appropriate licenses.
- Adopt a connected systems approach
 A back-office planning system is only valuable as part
 of the larger planning ecosystem and it should be
 designed to benefit from it and to support it.
- Design for better public information and community involvement

Plans are designed to create better living spaces for everyone so we should enabling the public to participate in this process. Make it visual

Planners rely on visual information, such as plans, 3D models, and GIS layers. Use these visual tools whenever possible to aid assessment of applications.

Show relevant information informed by data and context of use

We can assist users of planning systems by showing only information relevant to the specific case that an officer is currently assessing.

7 Empower teams by streamlining repetitive tasks

Repetitive tasks could be automated or supported by reusable content (e.g. templates).

B Design for flexibility and variation across local authorities

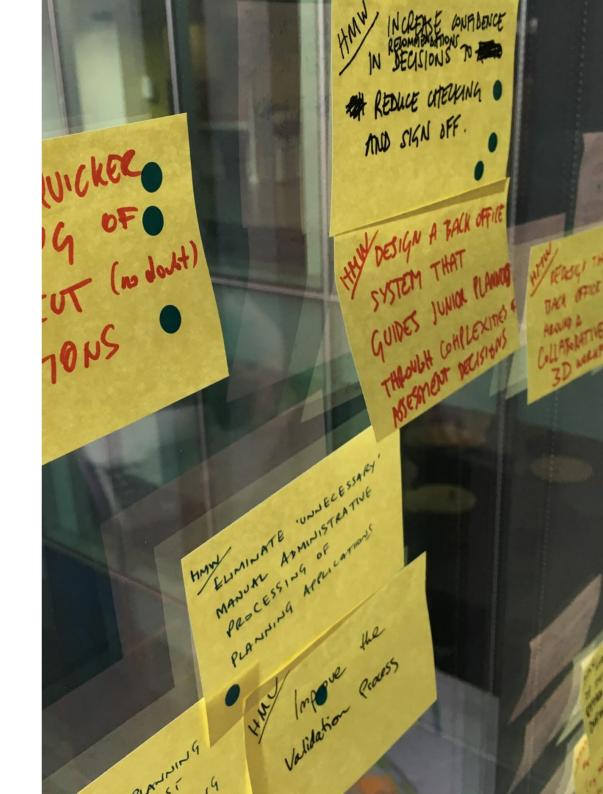
Different teams do things differently. Where possible, allow individuals and teams to adapt the system to their preferred way of working.

Proposed service concepts

Five opportunity areas identified

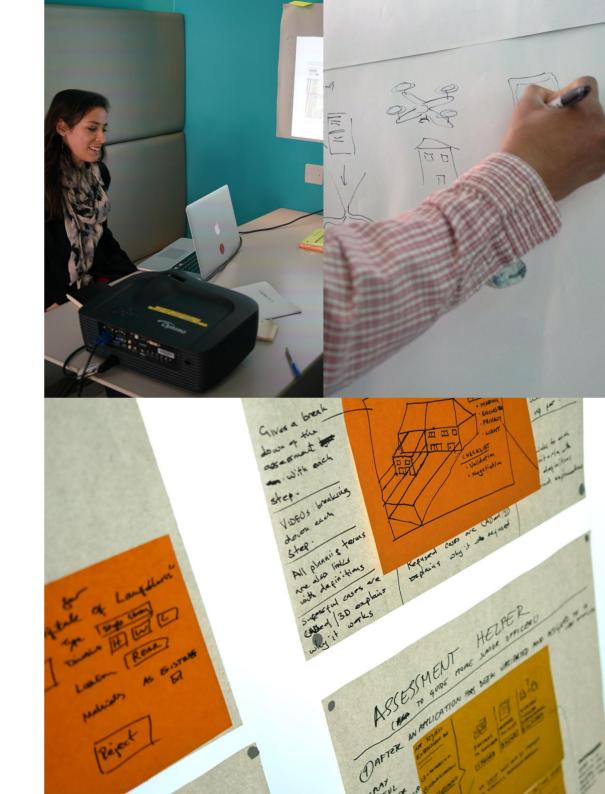
Following insight synthesis, the team has identified five key opportunity areas. "How might we...":

- Enable quicker processing of clear-cut applications?
- Reduce "unnecessary" manual administrative processing (e.g. validation)?
- Increase confidence in recommendations to reduce checking and sign off (e.g. system with better guidance for junior officers)?
- Redesign the back officer around a collaborative 3D workflow?
- Make the status of applications more visible to applicants and increased dialogue?



Co-designing with users

The team arranged for Planning Officers within the Southwark Council team to participate in a co-design sketching workshop, where a number of different concepts were created in response to the "How might we?" opportunities.



Prototyping propositions

We packaged the concepts from the sketching workshop as two separate propositions and created high-level prototypes for testing.

Stages Allocation of daily tasks

Reception Validation

Consultation

Assessment

Recommendation

Decision

Reporting

Future proposition 1:
Data-informed workflow



Automated validation

A smart system checks applications for inconsitencies and validates them. Data is converted into a standardised, open format and linked to existing GIS layers.



Informed applicants

Applicants are updated about changes in status throughout the process (not just at start and end). Register is easier to search through and has more useful public data.



Assisted assessment

With better data the system can automatically identify similar applications, relevant policies and possible amenity issues – enabling better recommendations in less time.



Seamless reporting

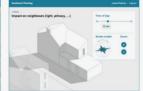
As the entire process is based on accessible data, providing an open data feed to MHCLG and LDD is seamless.

Future proposition 2:
Collaborative 3D workflow



3D subsmissions

Applicants that submit 3D files for their proposed developments are assured faster processing of their applications.



Integrated 3D assessment

All proposals are integrated with the 3D city model. Officers can assess amenity by rotating the model and comparing with nearby properties. No site visits required.



Collaborative alterations

Alterations can be proposed on the 3D model and potential issues discussed with applicant and other interesed parties.



Rich, open 3D datasets

3D datasets gathered through the applications process would be openly available to the public, supporting the creating of new VR/AR applications and spatial analysis

Proposition 1

Data-informed workflow

Structured data from new submission systems is seamlessly integrated into the new back-office system, enabling a data-driven workflow that benefits applicants, case officers, and strategic planners alike.

Benefits:

- Reduced time spent on repetitive tasks
- More-consistent recommendations, requiring fewer checks by senior officers
- Better data for strategic planners and policy makers

Imagined future scenario









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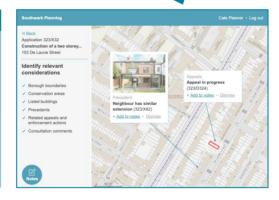
Proposition 1

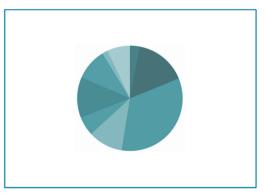
Data-informed workflow: user feedback

"This will streamline so many applications." "This would be very helpful for a junior planner... particularly comparing with similar applications is quite useful."









"It would probably reduce the number of unnecessary resident enquiries."

"Currently data has to be entered manually into the Government portal"

Proposition 2 Collaborative 3D workflow

A future-oriented workflow where an openly available 3D city plan is co-created through new planning applications that include submissions of 3D models.

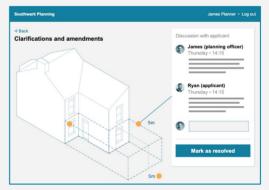
Benefits:

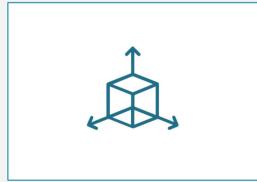
- Reduced need for site visits
- Better tracking of changes and alterations
- Co-created, open 3D city dataset

Imagined future scenario









3D submissions

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Integrated 3D assessment

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Collaborative alterations

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Rich, open 3D datasets

3D datasets gathered through the applications process would be openly available to the public, supporting the creation of new VR/AR applications and spatial analysis.

Proposition 2 Collaborative 3D workflow: user feedback

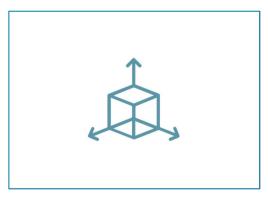
"It's difficult getting planner to name 2D files correctly. Trying to get them to submit 3D stuff would take time."

"That's brilliant, requesting amendments and indicating where the requested amendment is."









"This would save us a lot of time and hassle."

"...It gives a more streamlined interaction with the applicant."

Recommendations

Proposed alpha phase

Exploring an end-to-end MVP service for "simple" 8-week applications, starting with householder applications/certificates, and then minor applications.

Submission	Reception	V alidation	Consultation	Assessment	Recommendation	Decision	Reporting
Hackney SMPA integration	Automated document indexing	Validation checklist	Visible on register	Application specific checklists	Structured comments	Clear audit trail	Auto-generated metadata
PlanX integration	Document display/preview	Relevant policy information	Gather consultee feedback	Clear timelines	Automated report generation	One click approval	Reporting APIs
Application API	Automated data extraction	Smart suggestions	Progress indicator/timeline	Relevant policy information	Smart recommendations		
		Automated validation	Applicant notifications	Related applications (historical data)			
				Guidance documents and videos			











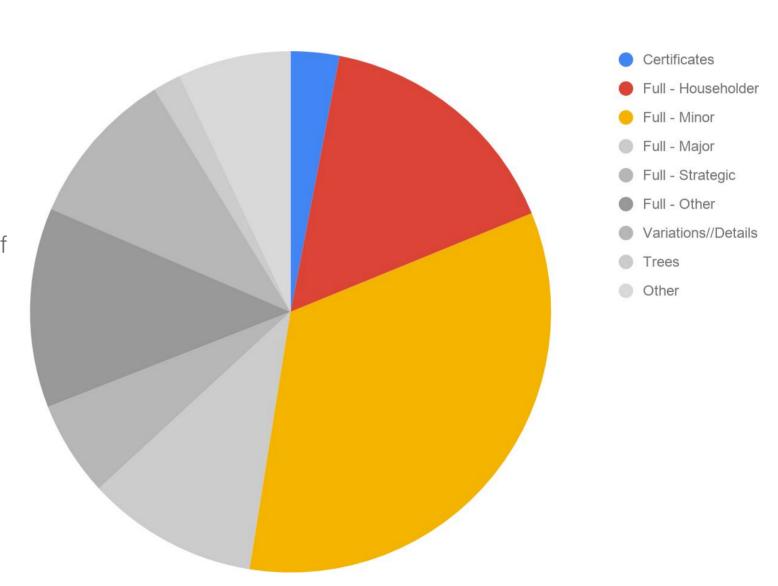






Focus for MVP

- "Simple (8-week)"
 applications account for over 50% of Planning
 Officer time
- Creating an MVP
 back-office system to
 improve the processing of
 these applications could
 significantly reduce that
 time



Out of current scope

User facing application interfaces - will be left to other teams and projects but monitored and integrated

Large scale strategic and major developments - more complex but will naturally follow MVP

Building control - an essential part of the journey and ripe for integration but currently out of scope



Proposed roadmap

Possible plan to develop system and integrate with other projects.

	19/20	20/21	21/22	Beyond
Number of Councils	3	3	10	50+
 MVP Alpha and Beta Establish end-to-end MVP service for "simple" applications Improved workflow for Planning Office Integrate with Hackney SMPA Provide reporting API for GLA and MHCLG Simple public register using Open Data Standard 				
 Full Service Build Discovery, Alpha and Beta to establish full service Process all application types Integrate with PlanX and others Open API for other third party applications 				
Live Service Ongoing enhancements to the service and rollout to other councils • Business development • Product management • Customer support				

Team makeup for alpha phase

For the alpha phase, Unboxed recommends the following core team structure:

- Product Owner
- Senior Service Designer
- Technical Lead
- User Researcher
- User Experience / User Interface Designer
- Developer
- Developer
- Delivery Manager



How do we measure success?

Processing time

We have limited data on the time spent processing applications but we believe it could be significantly reduced. Difficult to measure without careful activity tracking.

Valid applications

Applications frequently pass through the validation process but are found to be invalid at the assessment stage. Baseline data is limited but this should be reduced.

Lapsed time

Whilst the acceptable time between valid application and decision is mandated at 8 or 13 weeks, we believe this could be reduced if internal processes allow. Time extension requests should be reduced.

Recommendation approval rates

Better baseline data is needed but qualitative research suggests Officer's decisions are often challenged by management. Better supporting information could reduce this.

User satisfaction

Planning Officers find existing systems unreliable, inconsistent and inflexible and software providers unresponsive. This should be monitored continuously by the product team.

Participation of other councils

The business case for the system is dependent on the participation of many councils both in the development of the system and its implementation.

Customer satisfaction

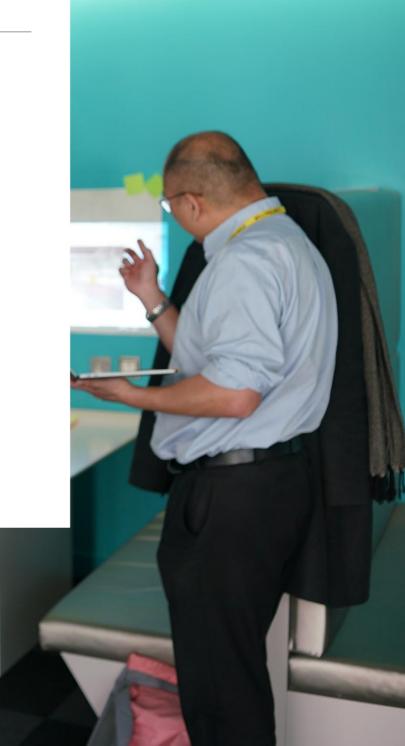
Although public interaction with the system will be limited, the improvements in efficiency and transparency should improve the experience of the applicant, resulting in fewer application queries and complaints.

Service assessment

On Thursday 25th April 2019, this discovery phase was assessed against the <u>Local Government Digital Service Standard</u>, by a panel of three assessors from Greater London Authority and Government Digital Service.

Following the assessment, the phase has **met** each applicable point of the service standard, passing the assessment. The report will be made available on the <u>LocalGovDigital website</u>, week beginning 29th April 2019.

The discovery phase research documents have also been published on the <u>User Research Library</u>.





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