

BUILDING DIY SYSTEMS WITH LOW CODE: A PRAGMATIC ALTERNATIVE?

HOUSING TECHNOLOGY CONFERENCE

7 MARCH 2019

PAUL TURNER, SYSTEMS AND PERFORMANCE MANAGER
ADUR AND WORTHING COUNCILS

@paulturner500

A bit about Paul...

PERSONAL STUFF

- Married with 2 kids
- Cycling
- Travelling

WORK STUFF

- Manage Housing Systems and Support teams
- 13 years at org



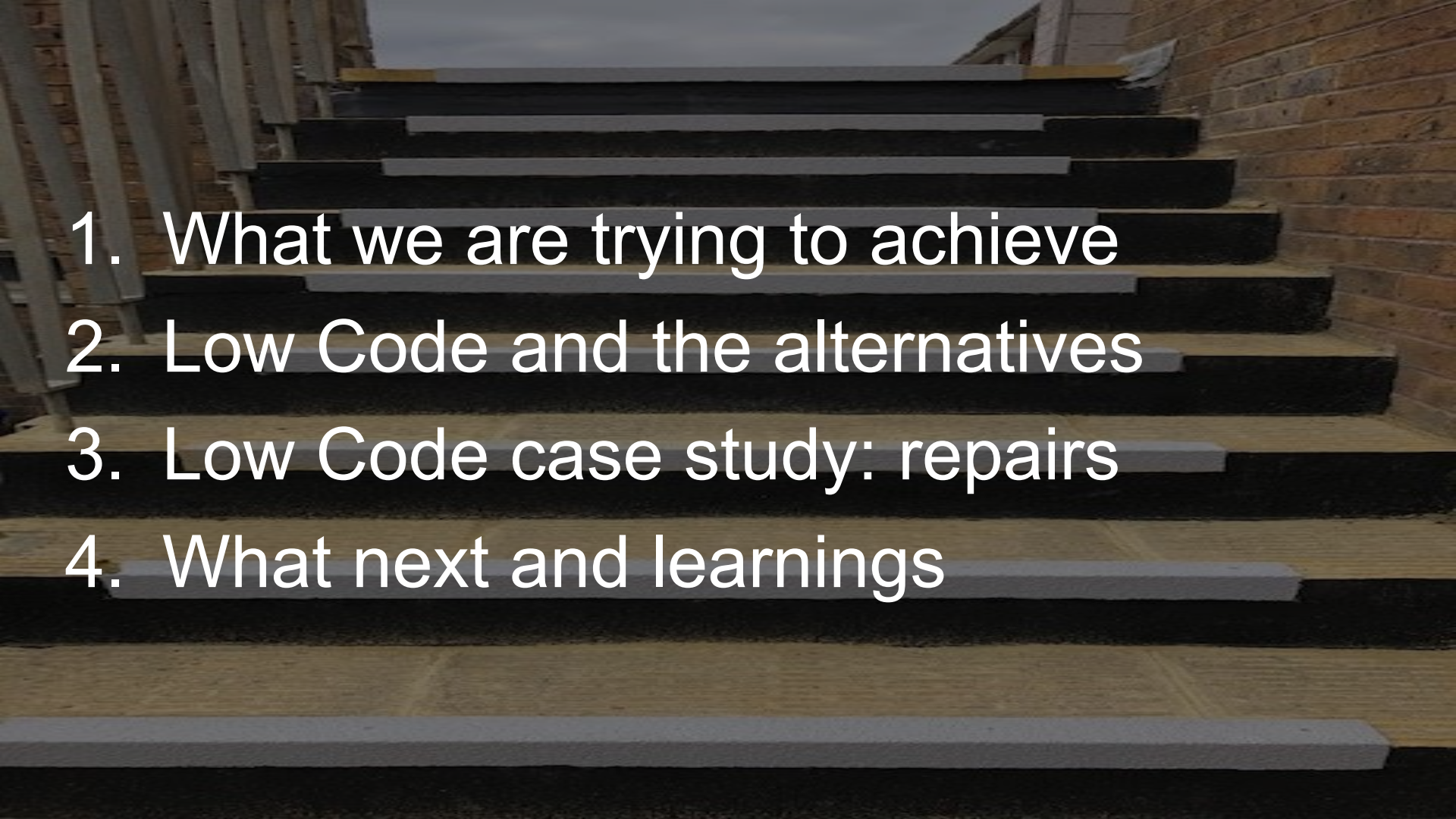
A bit about Adur and Worthing...

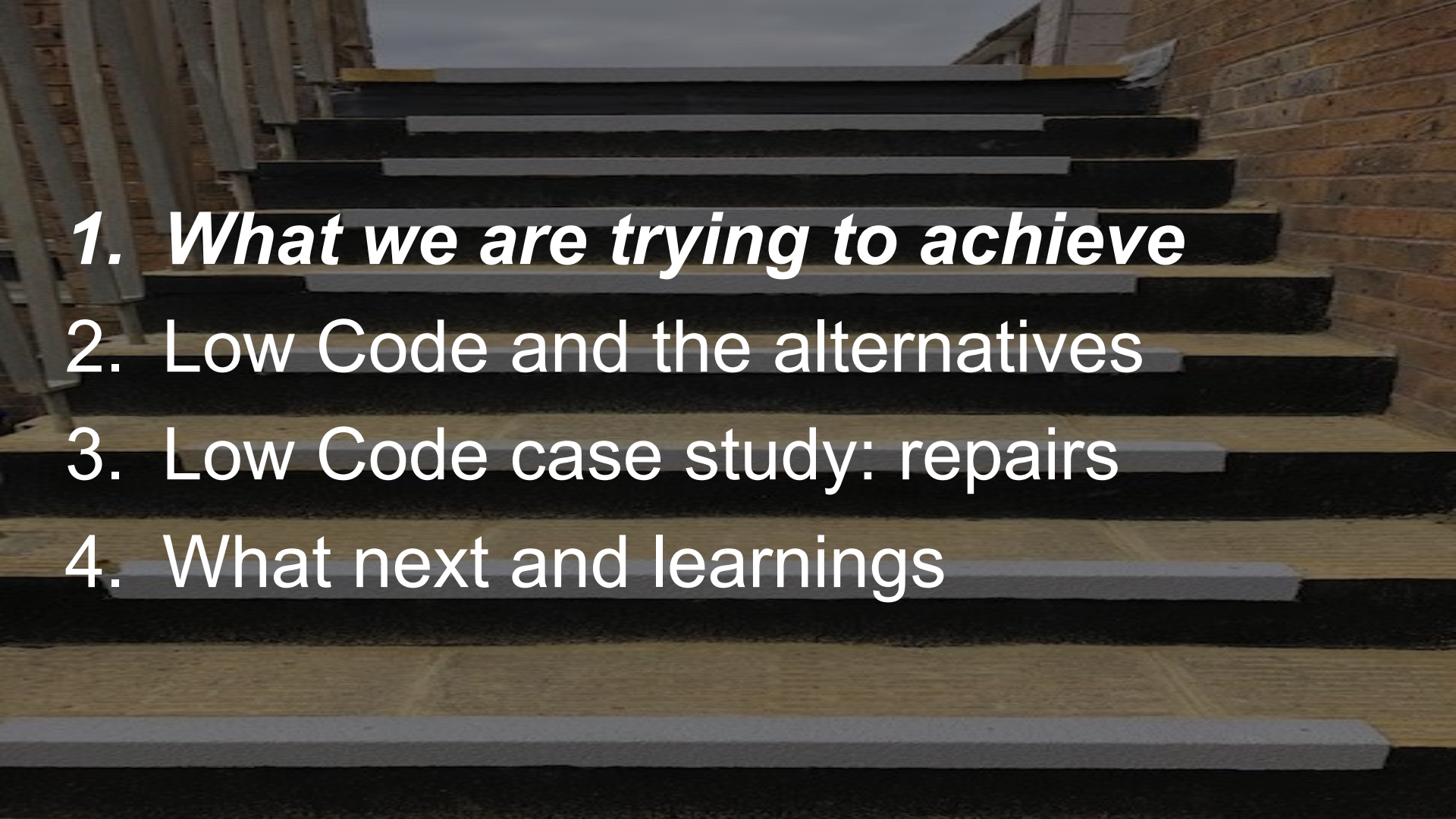
GENERAL STUFF

- 2 small-ish councils
- Pop: 175k
- Near Brighton
- Adur: housing stock of 3k

DIGITAL STUFF

- *SOC/ITM* Award for Innovation 2015
- *Computing* Digital Tech Leaders Award 2017

- 
1. What we are trying to achieve
 2. Low Code and the alternatives
 3. Low Code case study: repairs
 4. What next and learnings

- 
1. ***What we are trying to achieve***
 2. Low Code and the alternatives
 3. Low Code case study: repairs
 4. What next and learnings

The background of the slide is a photograph of a residential building. It features a combination of dark red brickwork and white horizontal siding. There are several windows visible, including a large multi-paned window on the ground floor and smaller windows on the upper floor. A dark downspout runs vertically along the side of the house. The overall lighting is somewhat dim, suggesting an overcast day or late afternoon.

WHAT WE ARE TRYING TO ACHIEVE:

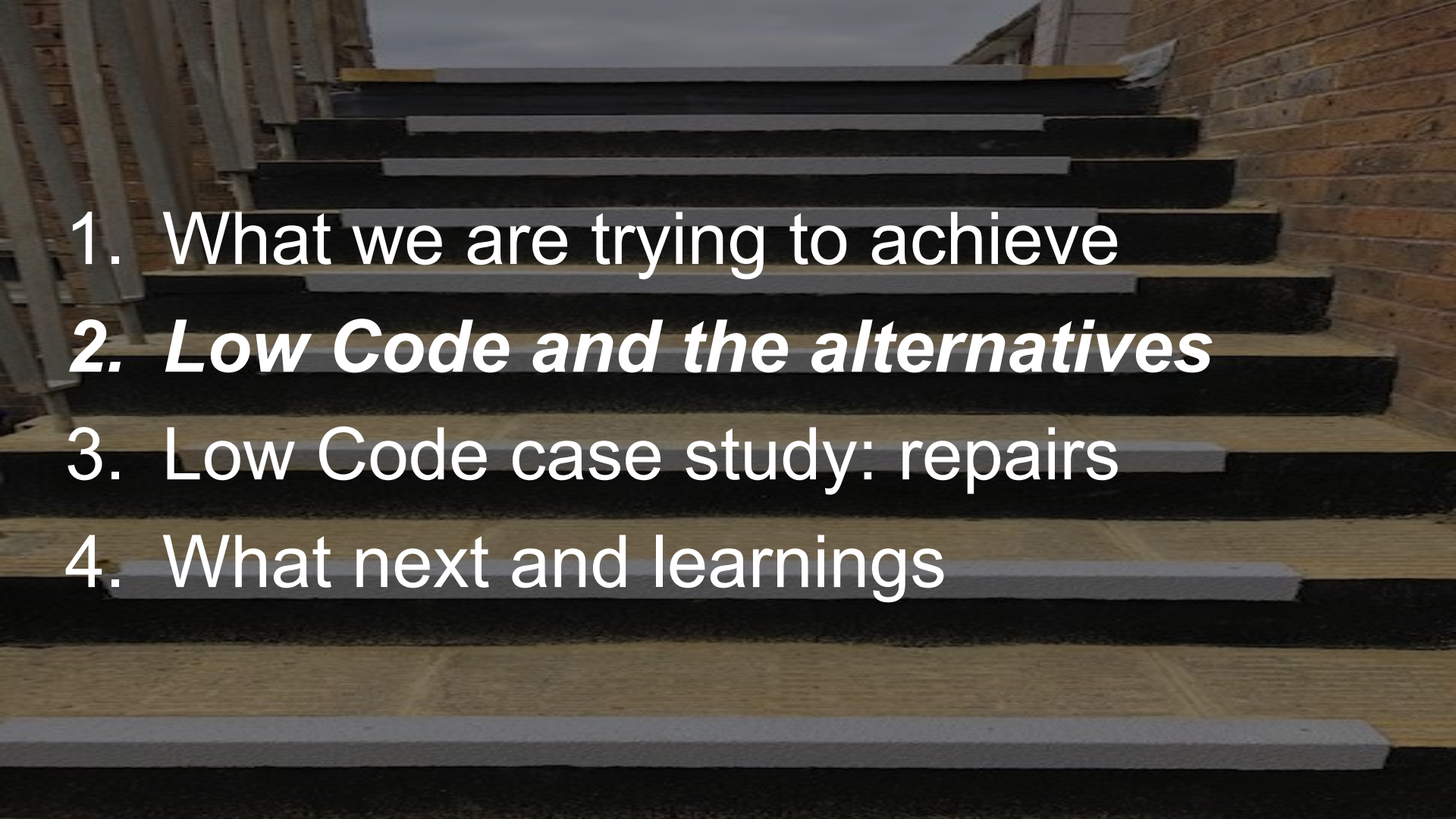
More efficient

More joined up

More agile

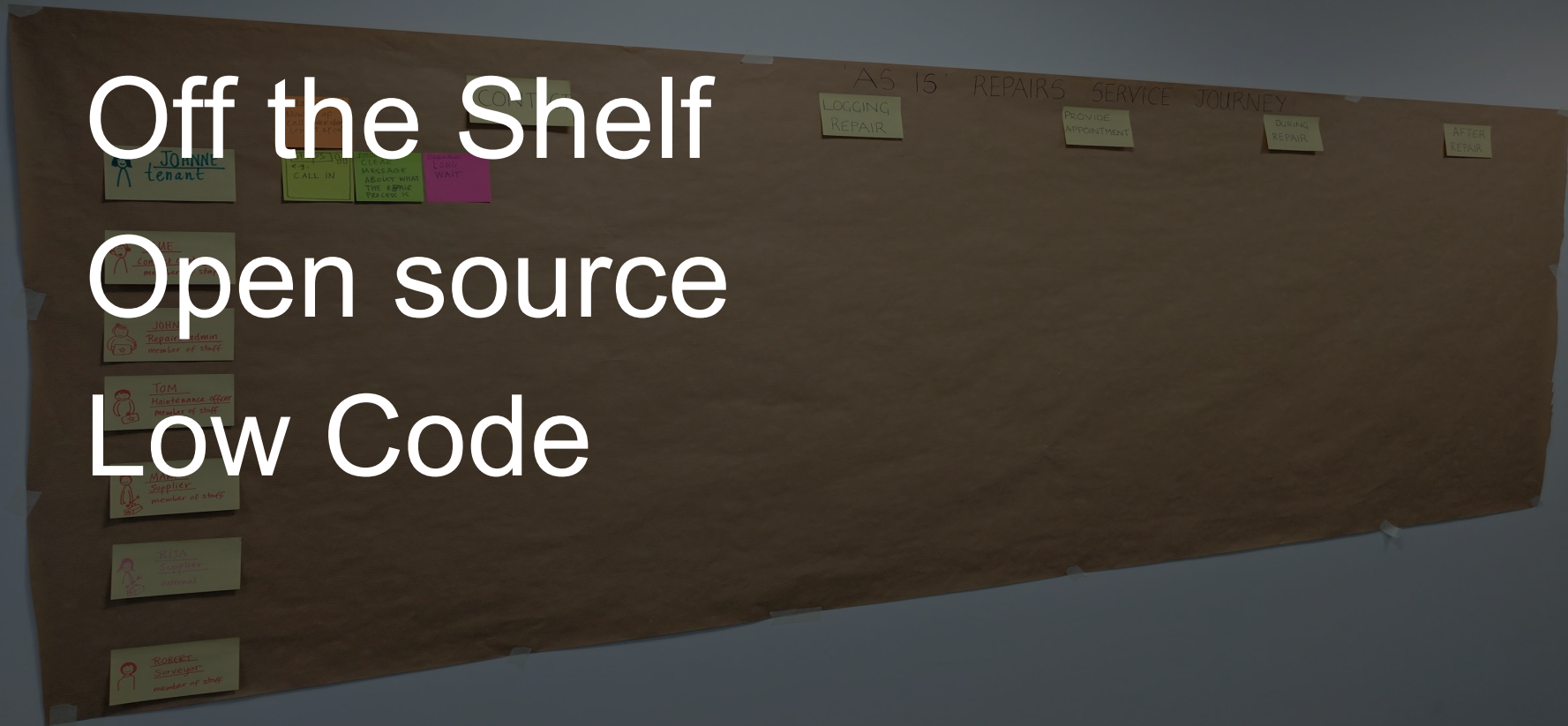
Enable residents and officers

Financially sustainable

- 
1. What we are trying to achieve
 2. ***Low Code and the alternatives***
 3. Low Code case study: repairs
 4. What next and learnings

LOW CODE AND SOME ALTERNATIVES

Off the Shelf
Open source
Low Code

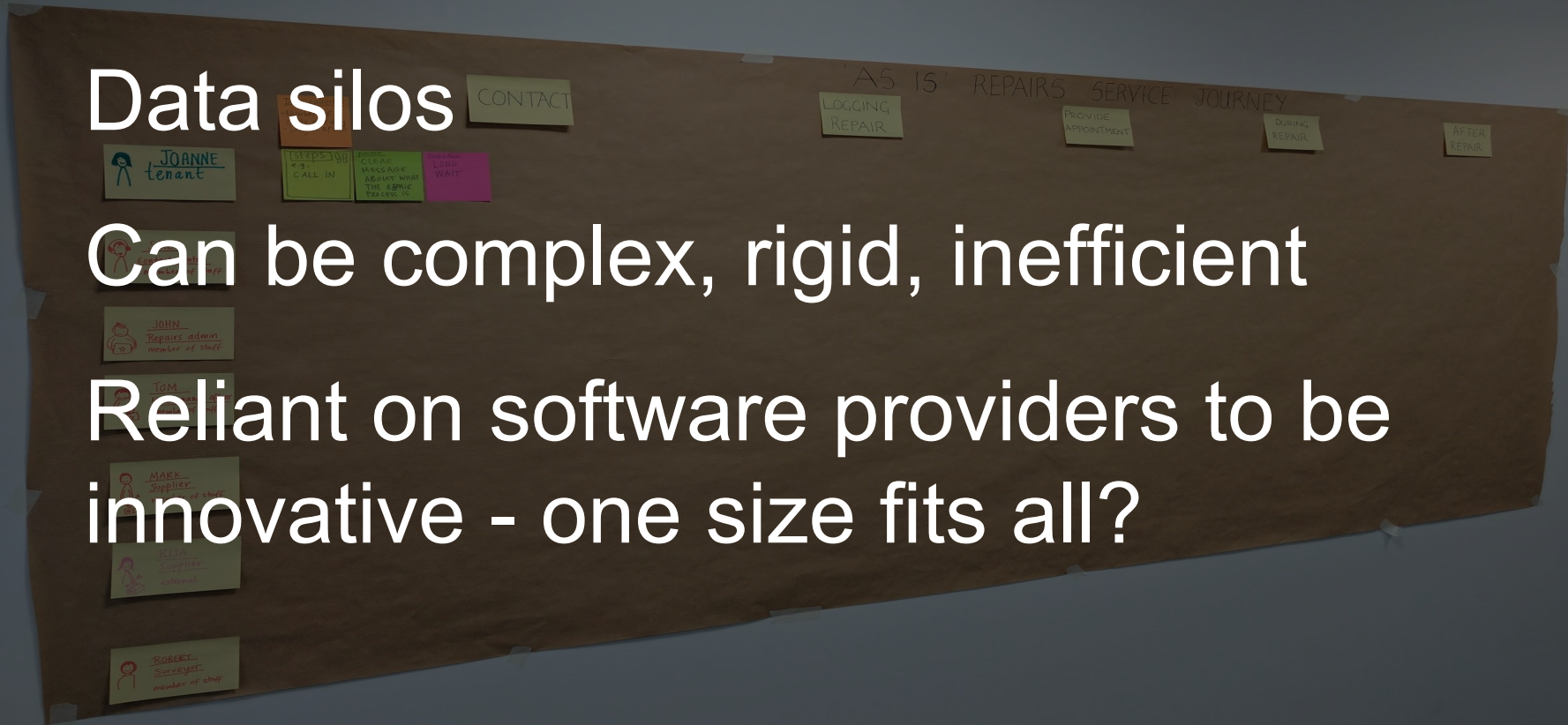


OFF THE SHELF

Data silos

Can be complex, rigid, inefficient

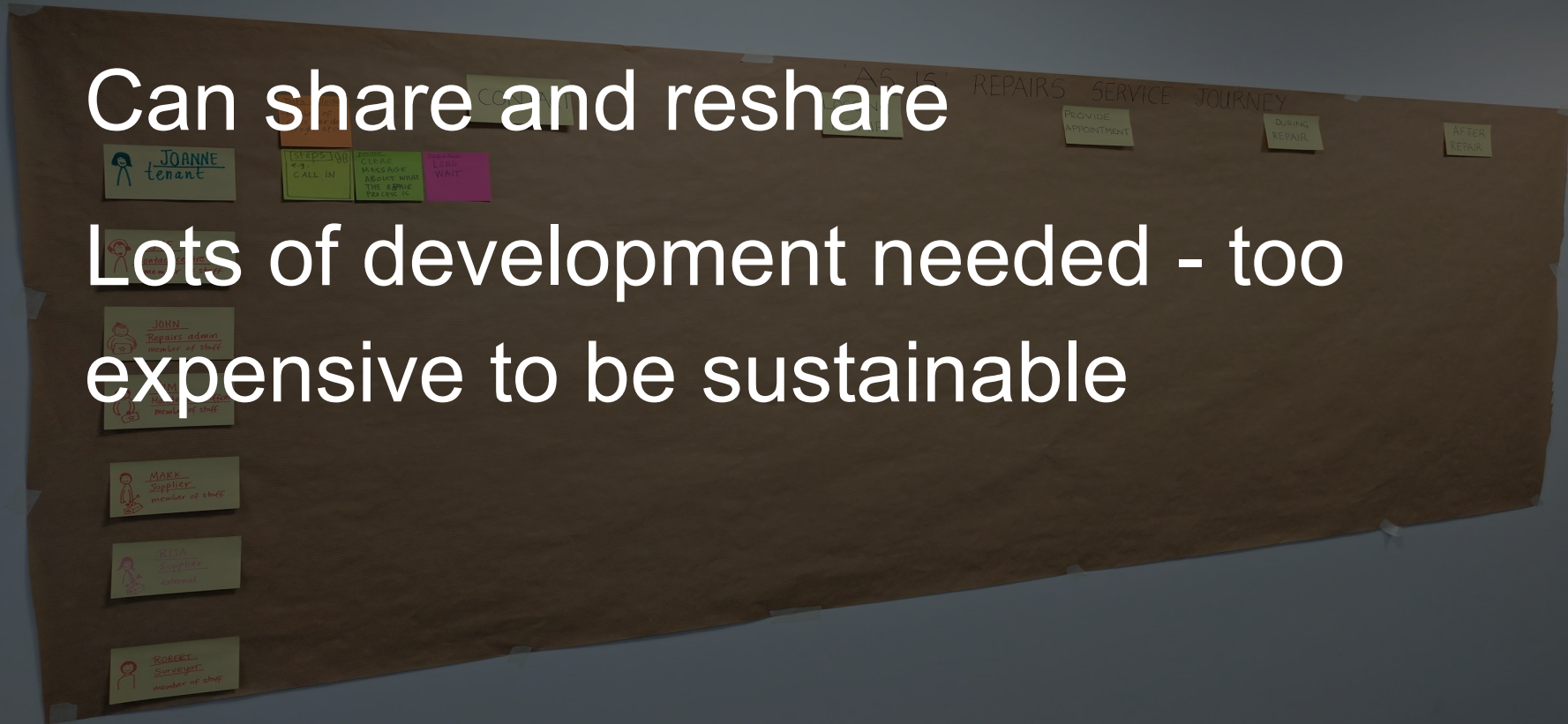
Reliant on software providers to be innovative - one size fits all?



OPEN SOURCE

Can share and reshare

Lots of development needed - too expensive to be sustainable



WHAT IS LOW CODE?

... a platform for application development

... with reusable capabilities

Market worth \$15.5 billion by 2020

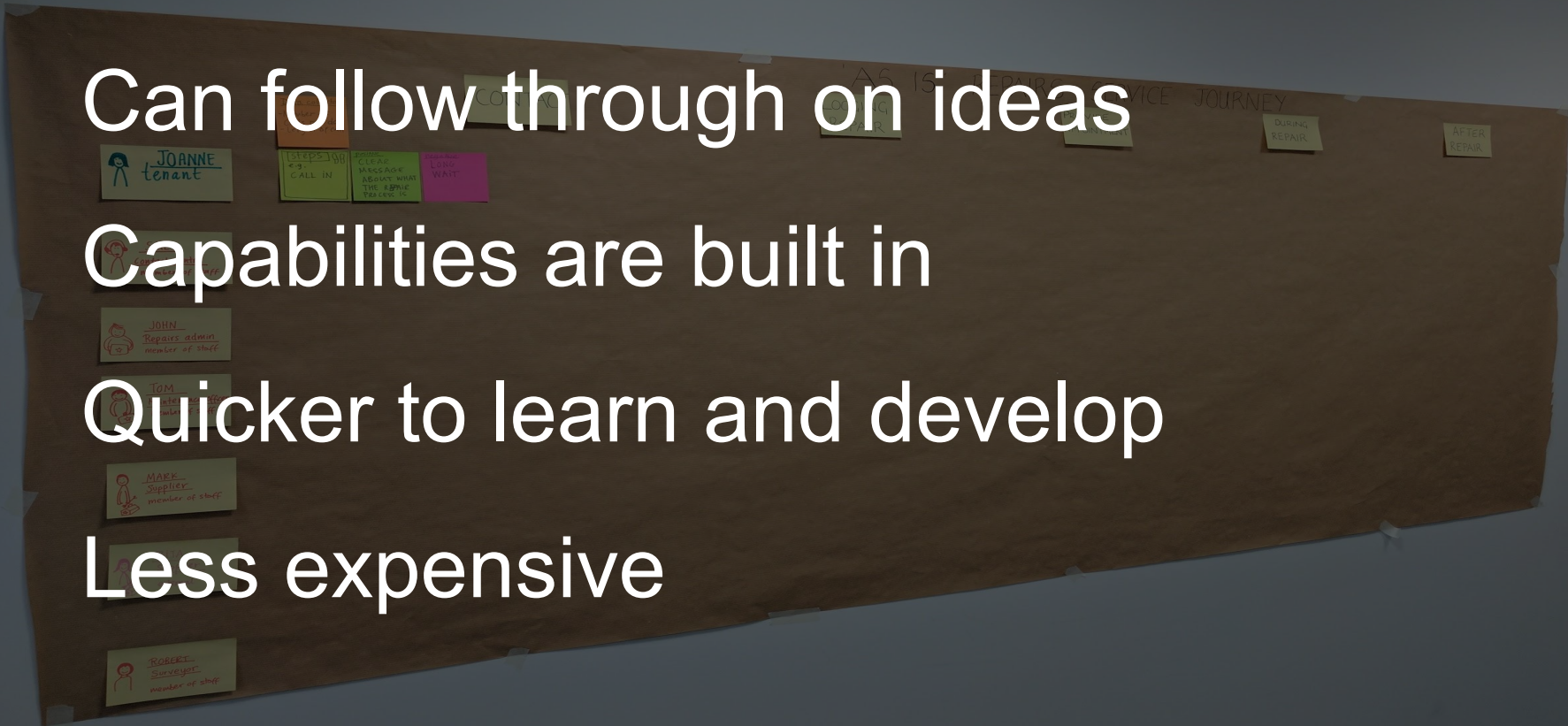
SOME BENEFITS OF LOW CODE

Can follow through on ideas

Capabilities are built in

Quicker to learn and develop

Less expensive



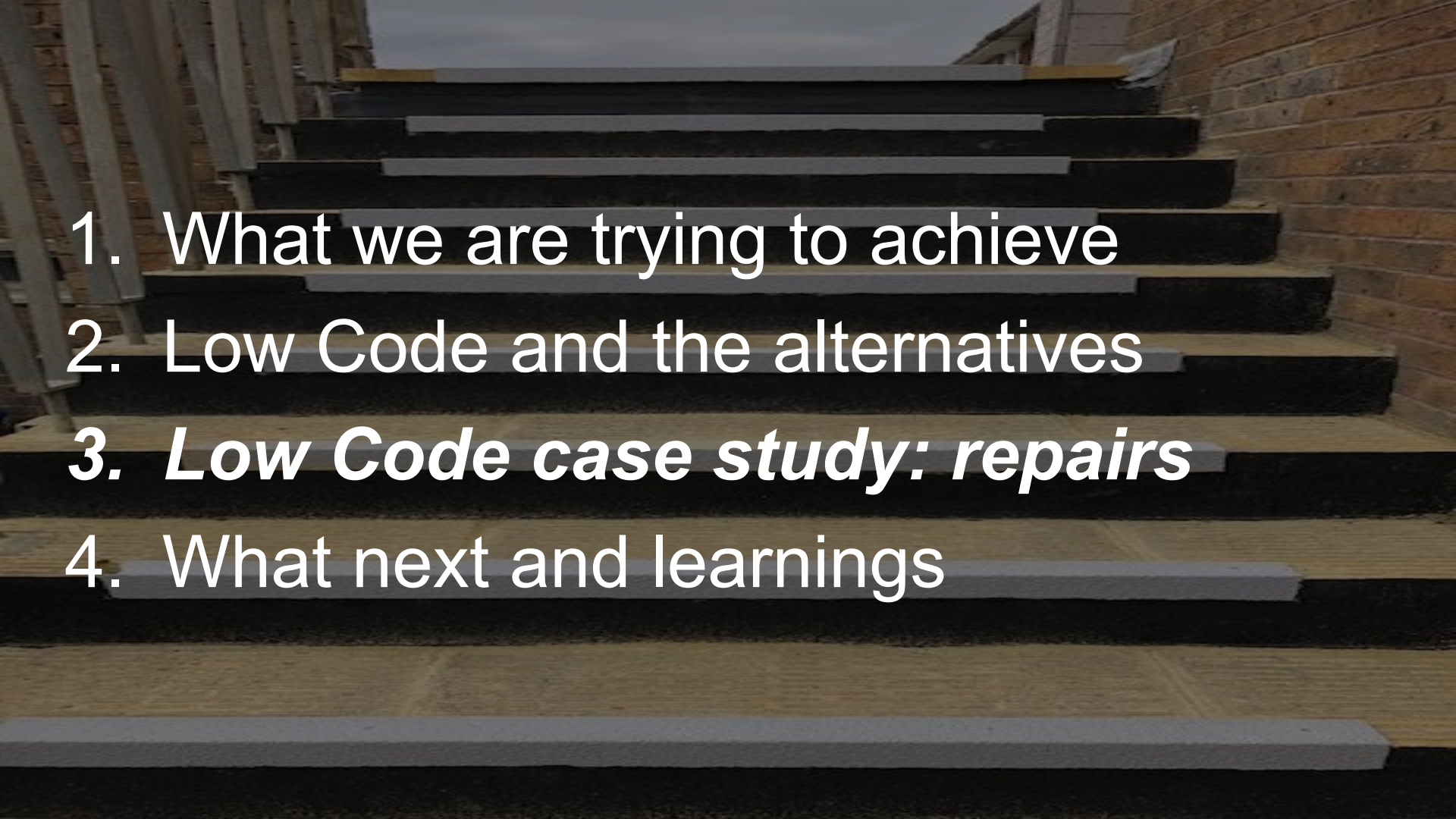
POSSIBLE RISKS OF LOW CODE

‘All eggs in one basket’ - *data architecture diagrams + Escrow*

Too risky for mission-critical?

Robust but requires change control.

Risk of shadow IT - *change control*

- 
1. What we are trying to achieve
 2. Low Code and the alternatives
 3. ***Low Code case study: repairs***
 4. What next and learnings



LOW CODE CASE STUDY: REPAIRS

Discovery phase

What we looked at



**CUSTOMER
RESEARCH**



**JOURNEY
MAPPING**



**DATA
MAPPING**



**TECHNOLOGY
DISCOVERY**



**HORIZON
SCANNING**



**LEADERSHIP
VISION**



Who was involved

Residents, operatives, external contractors, officers, surveyors, administrators, customer service agents, digital and design.

A dimly lit living room. On the left, a television sits on a black stand, displaying a news program with two men in a studio. The screen shows the text 'PRESTIGE AUTO GROUP' at the top, '0800 081 1991' at the bottom left, and 'www.prestigeautogroup.co.uk' at the bottom right. In the center, a glass coffee table holds papers, a remote, and two glasses of water. To the right, a light-colored sofa is cluttered with a jacket, a bag, and some papers. A window in the background is adorned with several potted plants. The overall atmosphere is quiet and domestic.

We interviewed 28 people

**We wanted residents to shape the future
service**

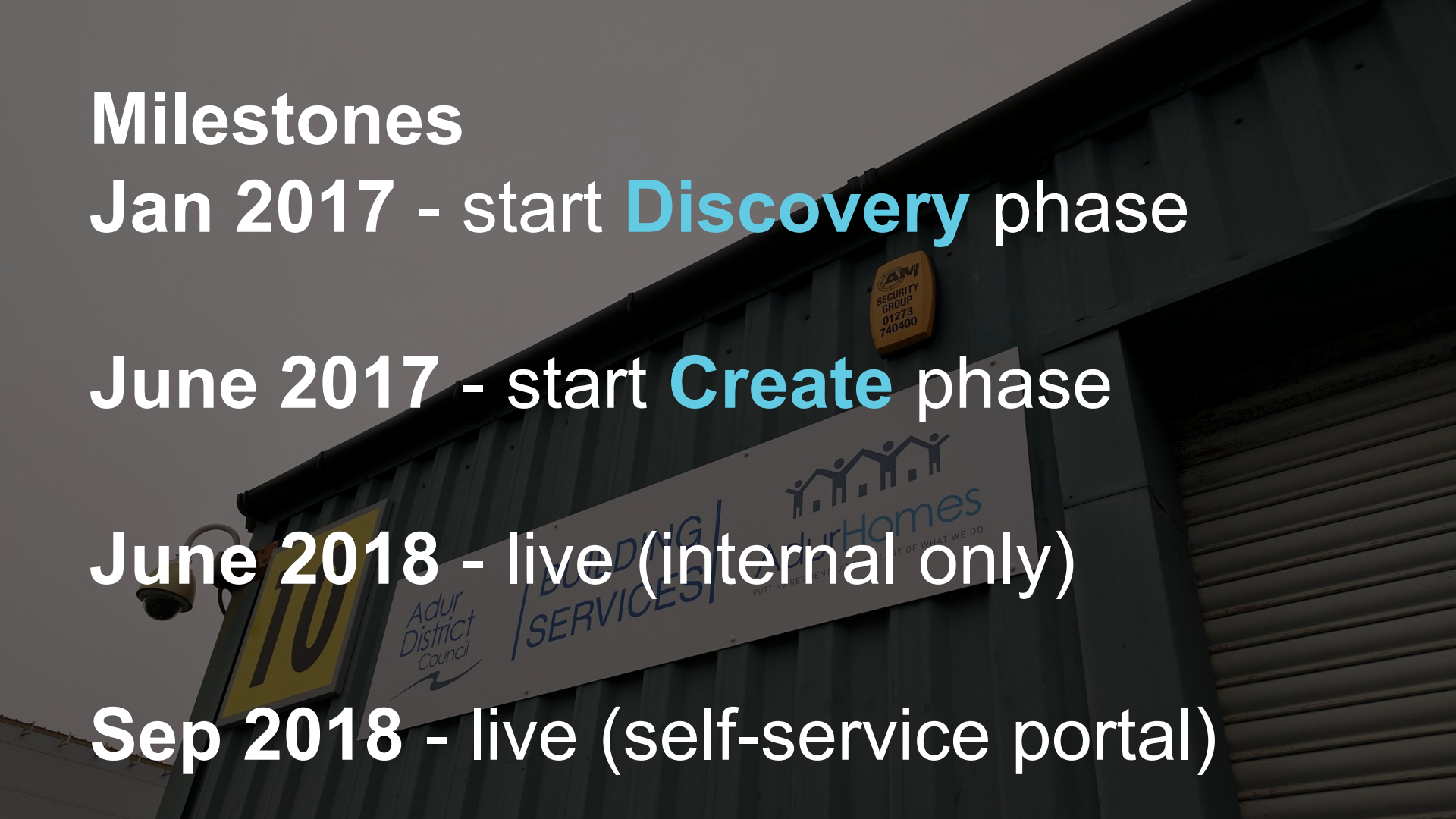
Milestones

Jan 2017 - start **Discovery** phase

June 2017 - start **Create** phase

June 2018 - live (internal only)

Sep 2018 - live (self-service portal)



Key issues with the previous service experience

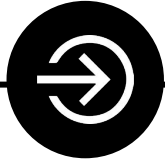


Set expectations

Residents and staff don't understand their responsibilities and the landlord responsibilities

Lack of guidance and incentives for residents to do their own repairs

Vulnerable residents are unable to do small repairs that are their responsibility



Entry

Self-service portal is not easy to use and not advertised, resulting in large amounts of calls

Long wait on the phone to report a repair

Phone calls feel rushed



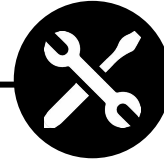
Diagnose a repair & provide appointment

Quality of diagnosis is poor

Staff have inconsistent knowledge about repairs

Poor communication about what work is going to be carried out and when

Not providing appointment at first contact



Carry out a repair

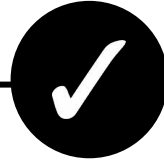
Wrong trade/ underprepared

Poor communication about progress updates and having to chase job

Standard is not right

Operatives don't turn up

Repairs carried out but not resolved problem



Completion

Not feeling listened to and respected

Lack of feedback

Feedback perceived as a waste of time

We developed service design principles

Listening to customers

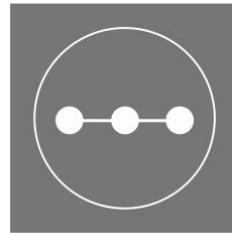
Get it right first time

Smooth and transparent
customer journeys

Proactive comms

Enabling residents/staff

Well defined service standards



LOW CODE CASE STUDY: REPAIRS

Create phase



Resulting in a 'create phase' with 3 workstreams



SLAs

SLAs for residents,
staff and operatives

Integrated ways of
working

Staff training



ENGAGEMENT

New user group

New handbook &
web pages

New external
comms



TECH

Low Code apps:

Portal

Scheduling

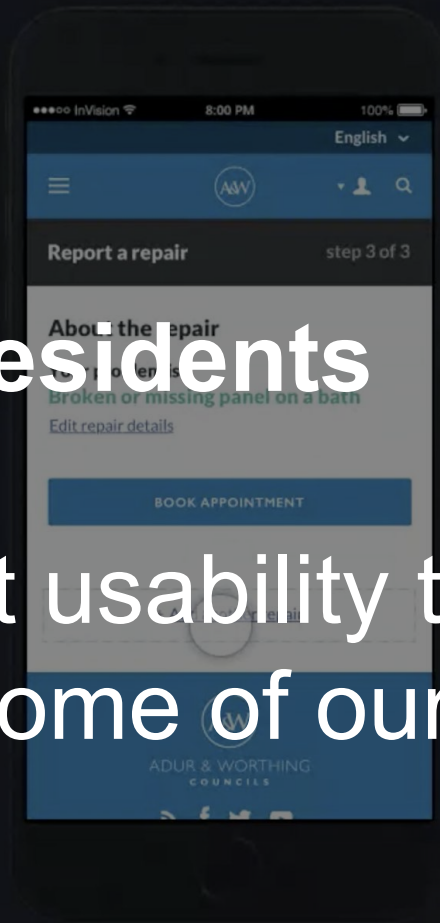
Mobile workforce

New self-service experience

We designed and built a new portal for residents needing to report a repair.

Tested with residents

We carried out usability testing on the designs with some of our residents.



The new portal includes:

Self booking (from the next available slot)

Sending images to help assess the repair

Receiving updates, including when the operative is on their way

Request feedback when visit is complete

Report a repair step 1 of 3

What type of property are you reporting?
We can only arrange for repairs to property maintained by Adur District Council.

Home Communal Garage

Find your address

1 Adelaide Square, SHOREHAM-BY-SEA
1 Adur Court, Stoney Lane, SHOREHAM-BY-SEA
1 Albion House, Whiterock Place, SHOREHAM-BY-SEA
1 Arun Court, Stoney Lane, SHOREHAM-BY-SEA
1 Arundel Court, Arundel Close, SHOREHAM-BY-SEA
1 Ash Court, Prince Charles Close, SHOREHAM-BY-SEA
1 Ashcroft, 100 Kingston Lane, SHOREHAM-BY-SEA

January 2018

MON	TUE	WED	THU	FRI	SAT	SUN
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Tuesday January 2nd 2018

Available time slots:

2pm - 4pm
4pm - 6pm

BOOK IT

A&W ADUR & WORTHING COUNCILS

[Dashboard](#)[Appointments](#)[Pending Jobs](#)[Active Jobs](#)[Van Tracking](#)[Flagged Jobs](#)[Resources](#)

Operative ▾

Job type

Date raised ↕

Districts ↕

Priority ↕

Status ↕



Alex T.

Asbestos issue

23/06/17

Worthing



IN PROGRESS



Simon

Asbestos issue

23/06/17

Worthing



IN PROGRESS



Gary M.

Wall needs replacing

23/06/17

Arundel



IN PROGRESS



James C.

Aggressive tenant

23/06/17

Broadwater



IN PROGRESS



Matt L.

Wrong tradesman

23/06/17

Littlenhampton



AWAITING INSTRUCTIONS



Liam

Burst pipe

23/06/17

Arundel



IN PROGRESS



Ian J.

Asbestos issue

23/06/17

Shoreham by Sea



IN PROGRESS



Mark K.

Exposed electrics

23/06/17

Broadwater



AWAITING INSTRUCTIONS



Mick K.

Boiler exploded

23/06/17

Chantonbury



IN PROGRESS

New scheduling app

We designed and built a new scheduling app for our admin staff.

[Dashboard](#)[Appointments](#)[Pending Jobs](#)[Active Jobs](#)[Van Tracking](#)[Flagged Jobs](#)[Resources](#)

Tested with admin staff

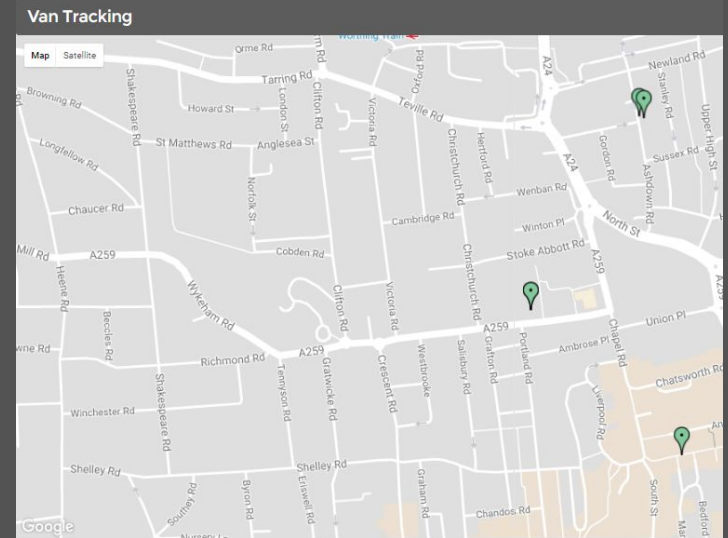
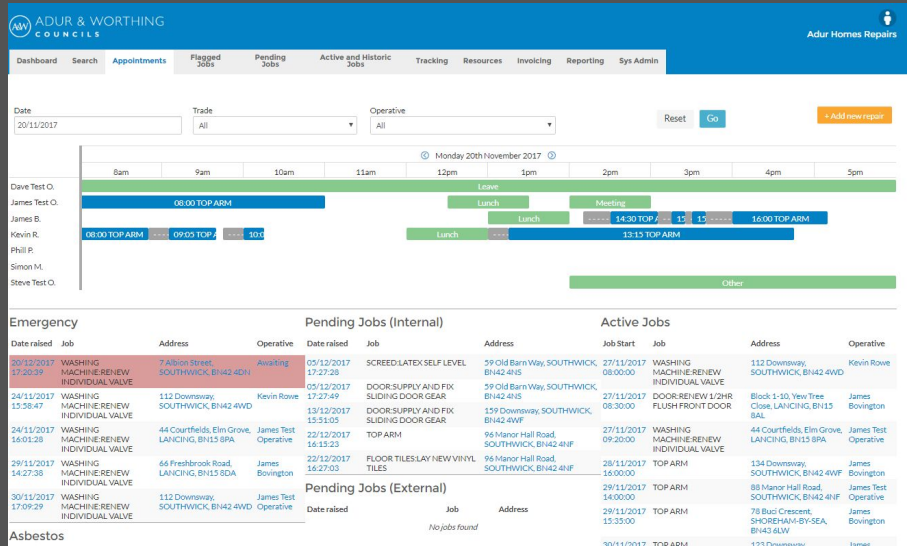
We carried out usability testing on the designs with our admin team.

	All	Operatives	Trade	Status	Reg No.	Street	Area/ Town
✓		Alex T.	Electrician	Not-Active	HD12 AHU	Beacon Close	Preston Park (Brighton)
		Shane H.	Electrician	Active	GX64 YDJ	Old Barn Way	Soutwick (Sho ham)



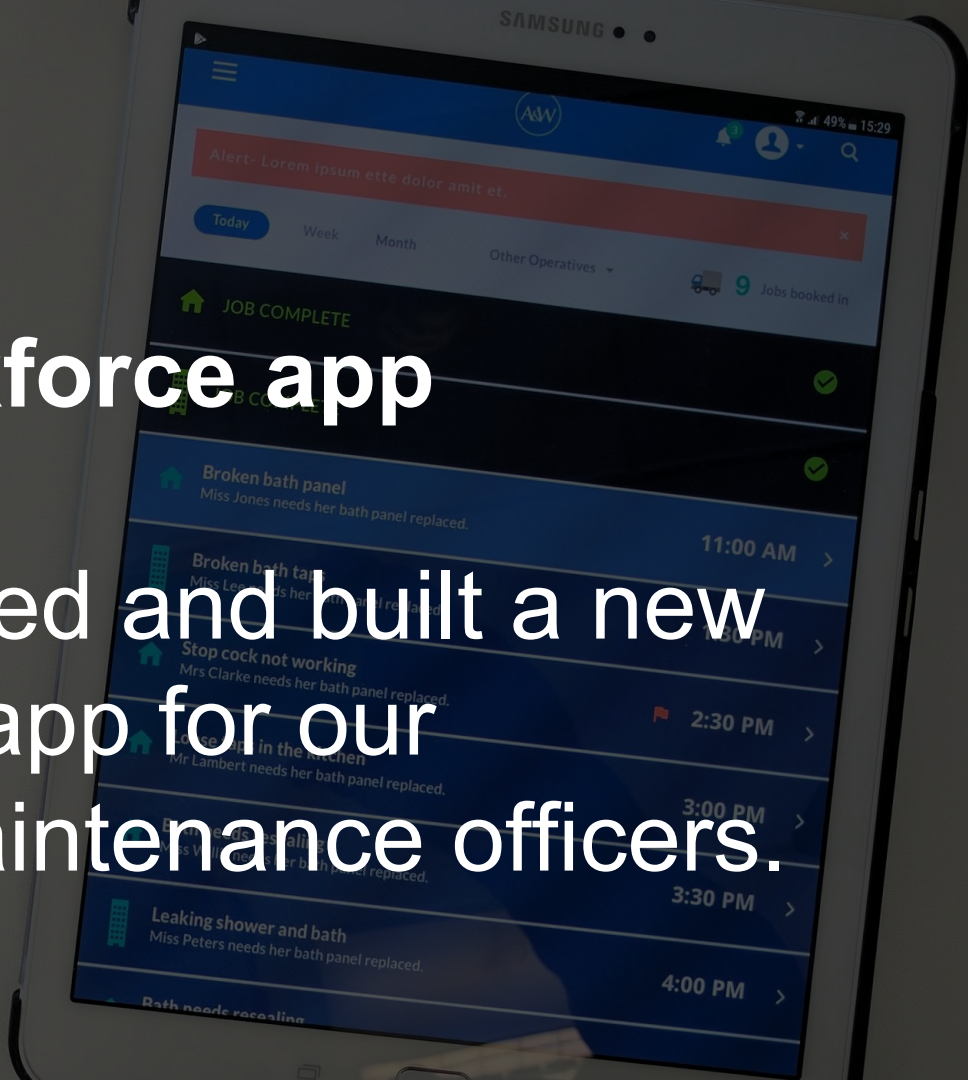
The new scheduling app includes

- Calendar, map and list views of jobs. by type, priority, operative and trade
- Automated reporting and invoicing



New mobile workforce app

We designed, tested and built a new mobile workforce app for our operatives and maintenance officers.

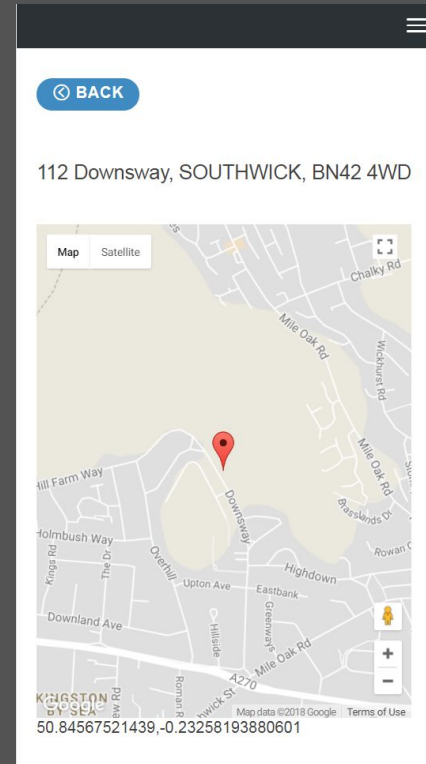


The new mobile workforce app includes

Start and end of day routines

Customer sign-off and feedback

Managing variations and photographing repairs for effective audit trail



Which we hope will lead to...

Clear and consistent standards

Better service experience

Better decisions, made quicker

Ability to act on insight

More efficient operations

Some impacts to date...

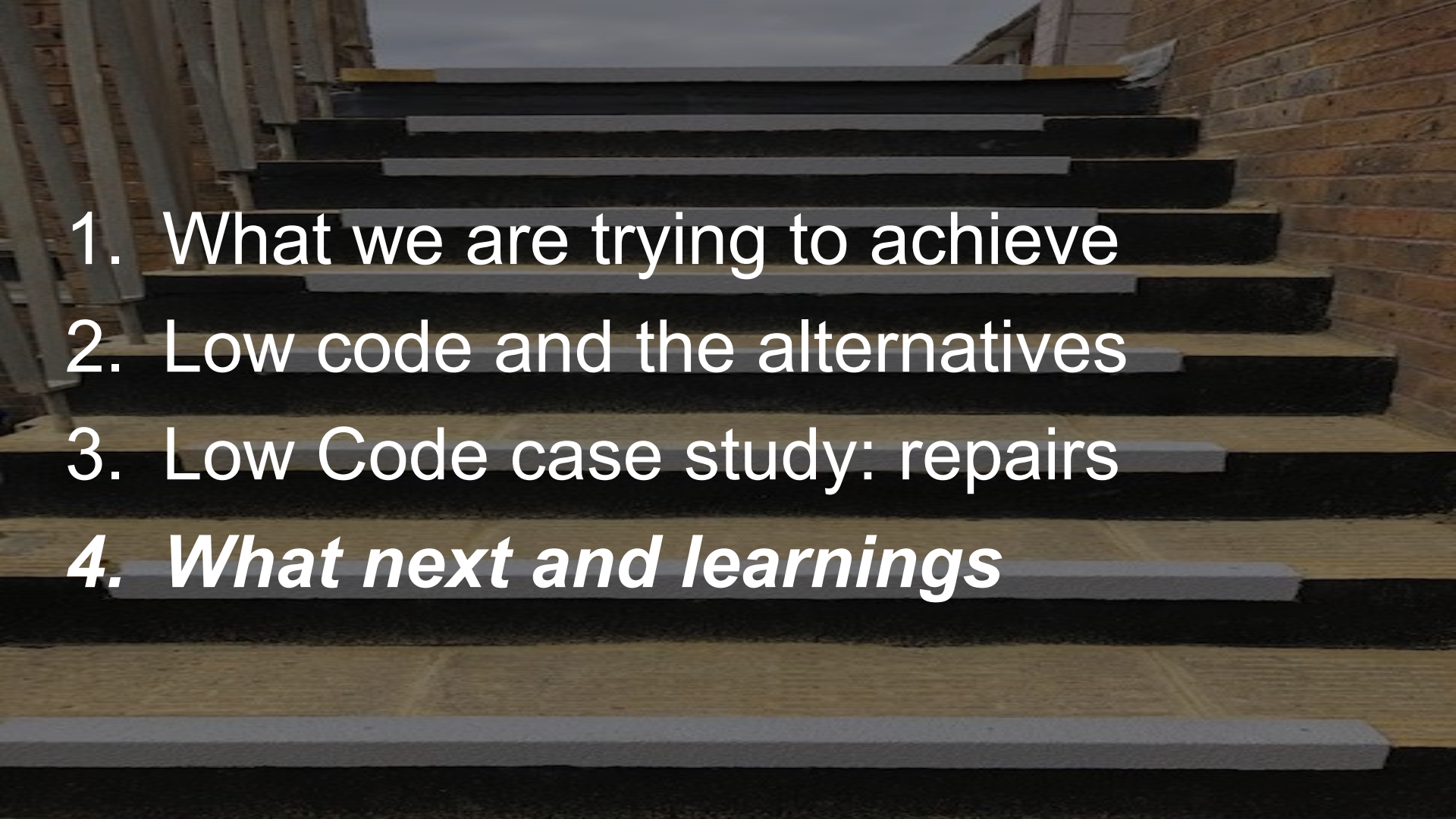
Operational efficiency Increased

Call volume No change

Portal usage doubled (need campaign)

Satisfaction up 3% (but with response rate up 150%)

Appointments Improved 93% kept

- 
1. What we are trying to achieve
 2. Low code and the alternatives
 3. Low Code case study: repairs
 4. ***What next and learnings***

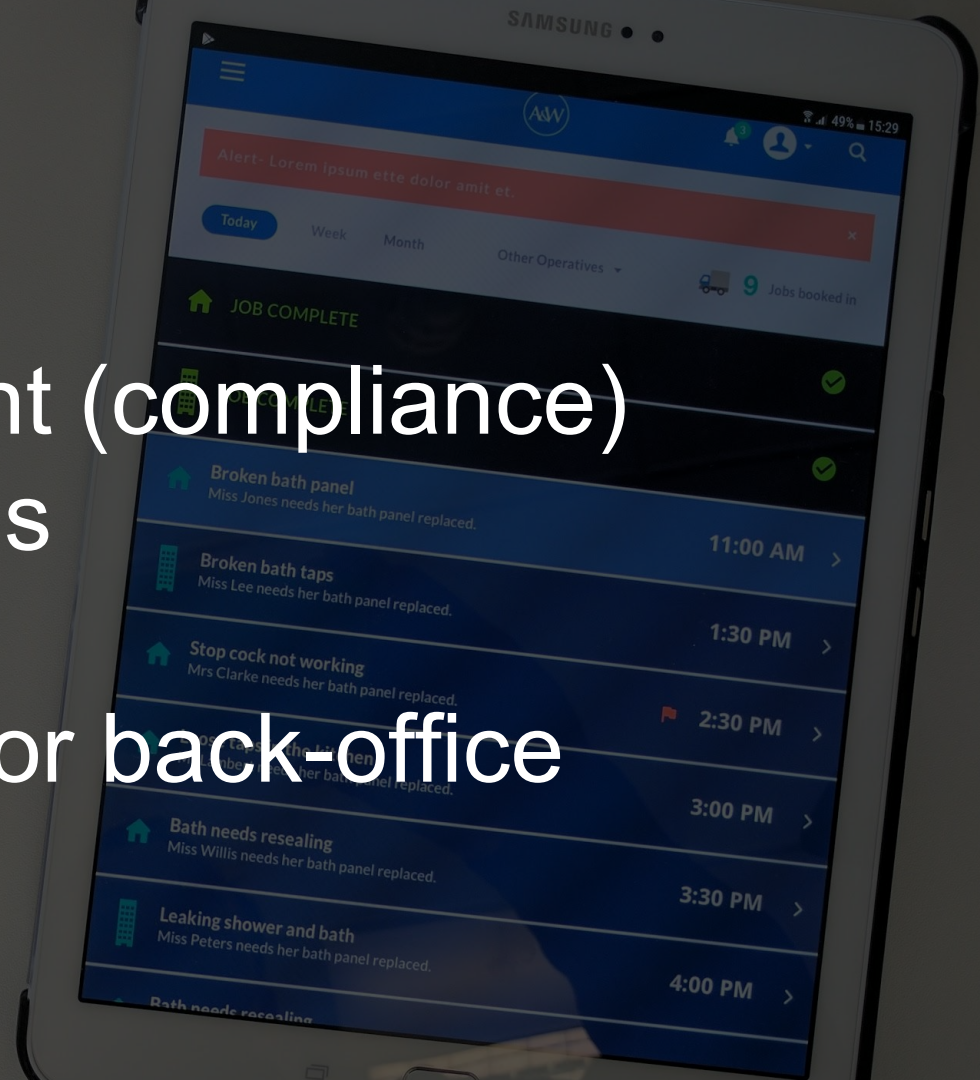
What next?

Asset management (compliance)

Estates inspections

Voids repairs

Improved design for back-office



What next?

Train more systems admins in Low Code
Train more in User-Centred Design
Co-location and mentoring
Make better use of our data



Learnings

Good design is vital
Need to test and prototype
Do Discovery and Build concurrently
Workarounds

Learnings

Co-design and co-creation can engage staff and residents

Co-locate for efficient collaboration

Learnings

Works best when policies and procedures are clear

Works best when led by the business and 'Product Owner'

Learnings

It's an iterative process!

We can be genuinely flexible, experiment and learn

Overall we think Low Code has given us

Improved customer experience

More efficient processes

Lower costs

Innovation for long-term

Thank you for listening!



ADUR & WORTHING
COUNCILS