South Worcestershire ICT

2012

Case Notes
Car Parking Fine Appeals

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SW2

Contents

Contents 3
Figures and Tables 3
Introduction 5
Initial Conditions and Scope 6
During Development 7
    Phase One 7
    Phase Two 7
    Phase Three 8
Product Description 9
Results and Learning Points 12
    Product Specific 12
    General 13
Appendix 1 - Principles of SW2 Self-service Development 14
Appendix 2 – SW2 Development Toolkit 15

Figures and Tables

Figure 1 – SW2 Gateway Components 5
Figure 2- Components of the Product 6
Figure 3 – Commencing an Appeal Screenshot 9
Figure 4 – Main Appeal Form Screenshot 10
Figure 5 – Appeal Confirmation Screenshot 11
Table 1 – First Six Months Results 12

Introduction

South Worcestershire ICT also informally known as SW2 is a shared service providing ICT services to three district councils. These are Wychavon and Malvern District Councils, and Worcester City Council. The service is hosted by Worcestershire County Council. In 2010 all three district partners adopted the same ICT strategy. A major focus of this was the provision of end to end self service for both public and business customers.

Within the service a team of developers dedicated to carry out the development work was established. A number of key decisions were made at an early stage which included the use of open standard tools (see Appendix 1) and Agile project management techniques.

Rather than make one of the high volume transactions the first development, car park appeals was chosen. This was an area where it was considered that the number of variables was low and the process was easily understandable.

The vision included the provision of customer access to the parking offence photographs prior to the point at which they had to decide whether to submit an appeal. It was also thought desirable that if after viewing the evidence customers wished to pay the fine they could do that directly from the same page.

The development toolkit (detailed in Appendix 2) is used to build the transactional functionality in the 'SW2 Gateway'. The conceptual structure of the gateway is:-

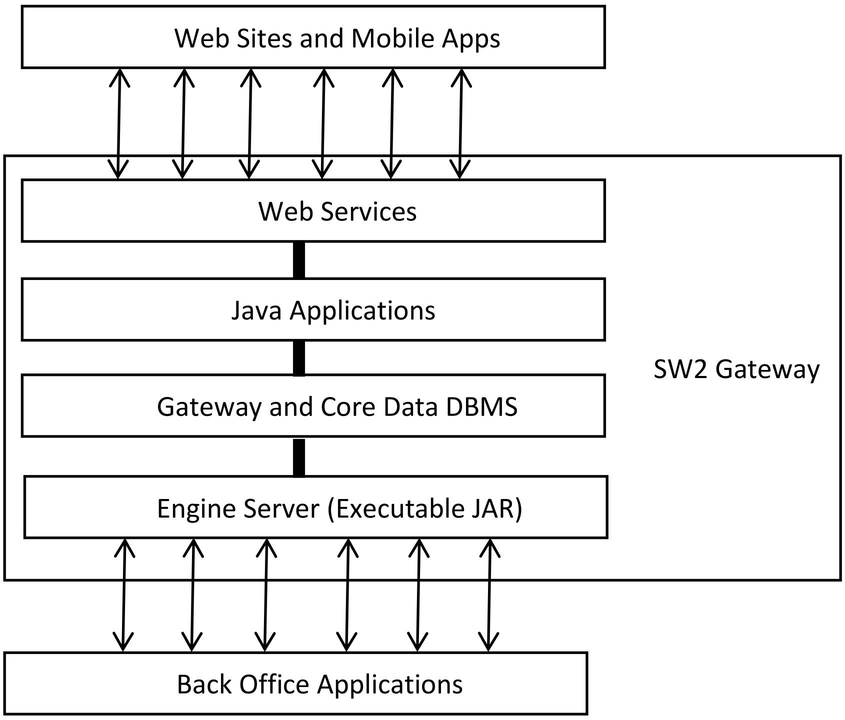

Web Sites and Mobile Apps
Web Services
Java Applications
Gateway and Core Data DBMS
Engine Server (Executable JAR)
SW2 Gateway
Back Office Applications

Figure 1 – SW2 Gateway Components

Initial Conditions and Scope

Each council uses a different back office application system to handle car parking administration. Two of these were located on site and one is a hosted service. All three councils already had on-line facilities for the payment of car parking fines however; none of them had an on-line facility for customers to use to appeal against the issue of a ‘excess charge notice’ (ticket). Methods available for appeals were limited to writing to the councils or visiting a customer service centre.

When a parking enforcement officer issues a ticket they take a number of photographs as evidence of the offence. These were not available for the customer or customer service staff to view. Although, relatively low in volume the number of customers appealing against a fine caused an issue with either of the existing channels available to them. Post involved a disproportionate amount of officers’ time in assessing, requesting clarification or further information, and replying. This also created an avoidable delay that frustrated customers. Face to face appeals in a customer service centre could be acrimonious and difficult for staff to deal with. As a consequence of the latter, there was a tendency for customer service agents to grant appeals to those customers who argued assertively rather than on merit.

After discussions with the three service teams at each council and customer service managers it was decided that there would be worthwhile benefits from enabling customers to lodge an appeal on-line either at home or from a public access PC in a customer service centre. The vision included the provision of customer access to the parking offence photographs prior to the point at which they had to decide whether to submit an appeal. It was also thought desirable that if after viewing the evidence customers wished to pay the fine they could do that directly from the same page.

Agreement was reached that, apart from branding, the customer front end of the product would be common to all three councils. Therefore the general arrangement looked like this:-

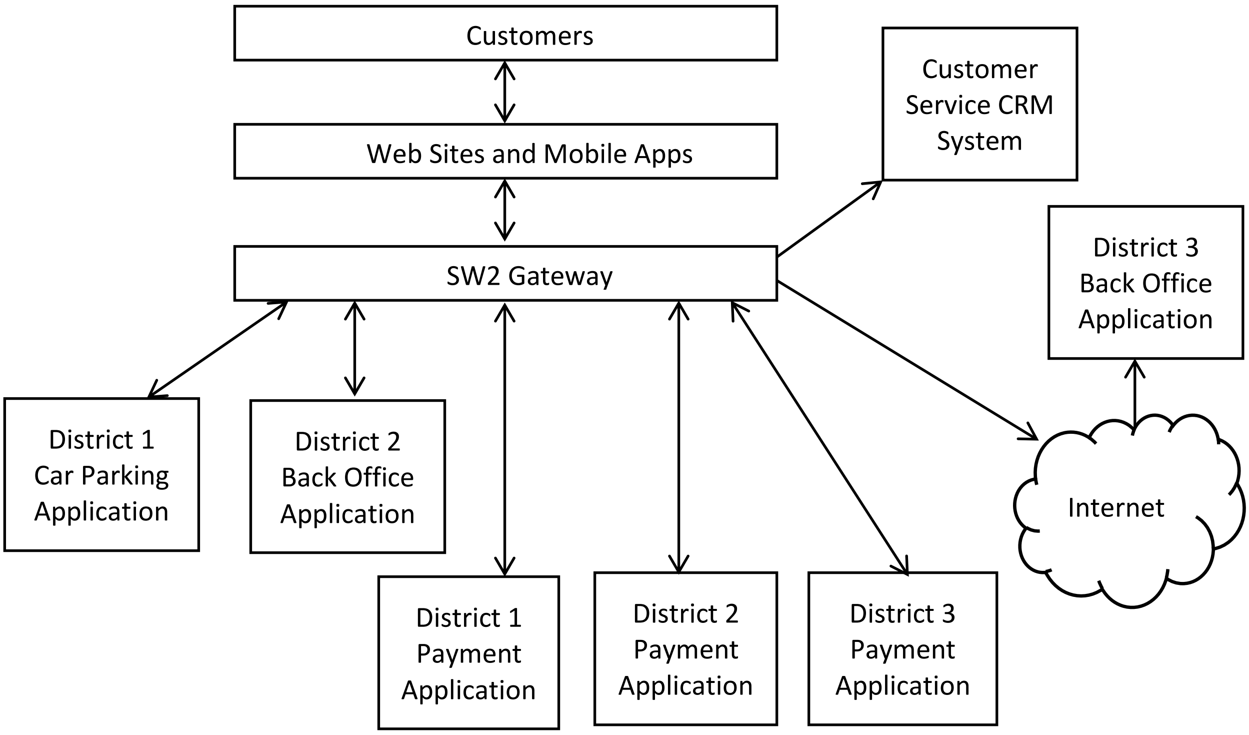

Customers
Web Sites and Mobile Apps
Customer Service CRM System
SW2 Gateway
District 3 Back Office Application
District 1 Car Parking Application
District 2 Back Office Application
Internet
District 1 Payment Application
District 2 Payment Application
District 3 Payment Application

Figure 2- Components of the Product

During Development

Phase One

With a requirement specification from their service manager development work started for one of the councils.

For all self-service developments a copy of the relevant data is pulled into the SW2 gateway database from the back office application. In the database additional information may be recorded such as preferred contact option. In this case the data stored involved ticket details, car registrations numbers four photographs per case and if appealing preferred contact details. Avoiding the need to look up the back office application system allows rapid response on the web site and ensures that every transaction is logged for customer reference and management reporting needs. The gateway and back office systems are synchronised to ensure data integrity. This approach also allows the web site to continue to function even if the back office application is off line and it makes it possible to replace back office applications without the need to re-develop the customer front end.

After all the planning was done the first phase was completed in the four weeks even allowing for some additional work to cope with a security issue. This arose from the use of the ticket reference number as the key to access the on-line appeal service.

Sequential numbers are predictable allowing the potential for malicious use of the service to launch numerous spurious appeals. To counter this risk, the vehicle's registration number is also a required key to accessing the service. An alternative to this approach would have been to change the make up of the ticket reference number so that only part of it was sequential followed by say three digits of random numbers. The latter solution would have required less information to be known and input by the customer however, it would have meant changing the three back office systems and required all the pre-printed tickets to be replaced.

Before the system went live, for the initial council, there was training for customer service staff and awareness sessions for back office staff. To direct customers to the new appeal page, amendments were made to other web site pages, printed documents and stationary. The system went live in November 2011 and very rapidly delivered the benefits expected.

Phase Two

This is where things became interesting. Although, all three councils had been involved in the original concept and requirements discussions when the second one saw the 'product' they came up with a number of new requirements. These included the display of any number of photographs per case they took up to 13 per case), the ability for back office staff to approve which cases and which photographs could appear on-line and the collection of additional information from the customer.

Initially, the development team attempted to accommodate these requirements into the product. After a further three months of work completion was some way off. At this point a review was undertaken. With the agreement of the senior management it was decided that these additional requirements were spurious and the front end from Phase One would be rolled out to all three councils.

This experience prompted o the adoption of a number of basic principles for SW2 self-service development (see Appendix 1) and Product Owners to manage the specification (see separate SW2 Product Owners' Guide).

This phase of the development was then rapidly completed.

Phase Three

The last of the three councils' car parking system is hosted remotely by a third party. Whilst phase two was underway discussions were held with the supplier in an attempt to work with them in enabling the on-line appeal product to connect to their database. The company decided that the only circumstances that this would happen were if it was paid a substantial fee for adding a solution to their product. As this is not in line with the ICT Strategy, the council declined and so, until the vendor could be replaced, an alternative was required.

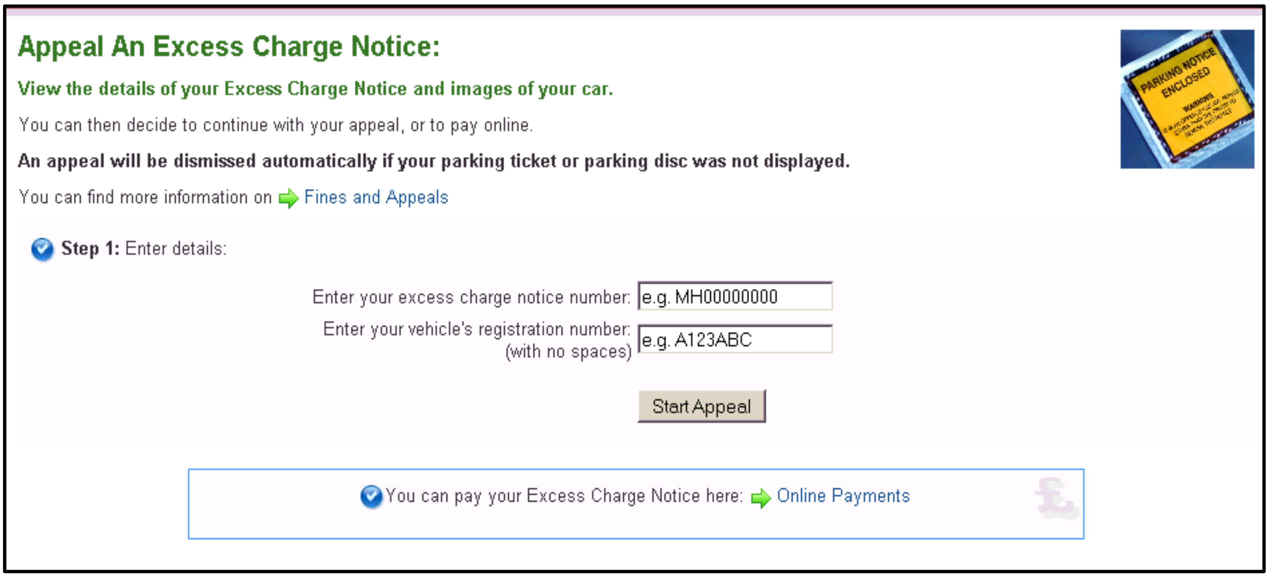
As the photographs are posted directly into the inaccessible hosted back office system the only way to make use of them on-line would have been to introduce a new storage location and ask the staff to post them twice. The process would also have to include a method of associating the images in the new store with the correct ticket number. As we can enter the appeal details into the current back office system there would also be manual work required to service the process. With all this complication it was decided that for the time being, the on-line appeal offering for this council would not offer photograph viewing. This version of the product allows customers to record an appeal which is sent to the relevant team to be entered in the back office system for action.

Although the lack of cooperation from the supplier was disappointing, this did present the councils with an opportunity to compare the results for the product with and without photographs.

All the development was completed within a few weeks and this final part of the project went live in April 2012.

Product Description

This is the starting point electronic form which is displayed within a district specific template to provide identity branding for each council. This is available directly from the home page of one of the three districts' web sites and a couple of clicks in on the other two. A link to it is one of the top results from a Google search like "*district name* car park appeal".



Appeal An Excess Charge Notice:

View the details of your Excess Charge Notice and images of your car.

You can then decide to continue with your appeal, or to pay online.

An appeal will be dismissed automatically if your parking ticket or parking disc was not displayed.

You can find more information on Fines and Appeals

Step 1: Enter details:

Enter your excess charge notice number: e.g. MH00000000

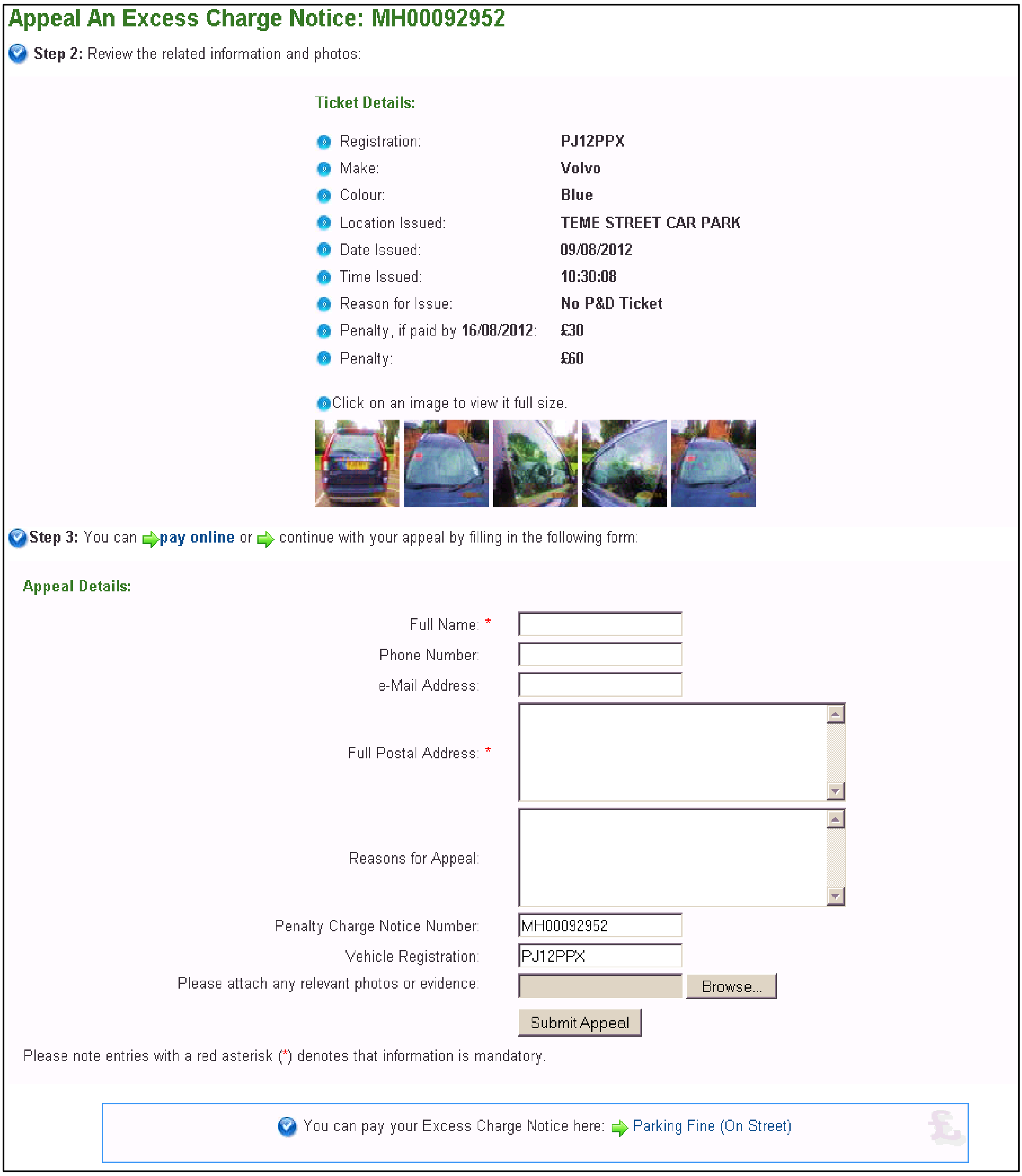
Enter your vehicle's registration number: (with no spaces) e.g. A123ABC

You can pay your Excess Charge Notice here: Online Payments

Figure 3 – Commencing an Appeal Screenshot

The excess charge notice (ticket) number is the main key to accessing records. Vehicle registration number is required to prevent abuse of the facility. Every use of the form to perform a search is recorded in the gateway database. If the click through to 'Online Payments' is used this is also recorded.

The next screen (Figure 4) displays the vehicle details, location and date/time of the ticket issue, nature of the transgression, amount of fine, photographs and fields for the customer to enter their details and reasons why they are appealing the fine. The photographs can be enlarged by clicking on them. Customers can attach their own evidence, such as photographs or documents by browsing to a location on the PC they are using or a removable memory device. They have the options to either submit an appeal or pay the fine.



Appeal An Excess Charge Notice: MH00092952

Step 2: Review the related information and photos:

Ticket Details:

Registration:	**PJ12PPX**
Make:	**Volvo**
Colour:	**Blue**
Location Issued:	**TEME STREET CAR PARK**
Date Issued:	**09/08/2012**
Time Issued:	**10:30:08**
Reason for Issue:	**No P&D Ticket**
Penalty, if paid by **16/08/2012**:	**£30**
Penalty:	**£60**

Click on an image to view it full size.

Step 3: You can **pay online** or continue with your appeal by filling in the following form:

Appeal Details:

Full Name: *

Phone Number:

e-Mail Address:

Full Postal Address: *

Reasons for Appeal:

Penalty Charge Notice Number: MH00092952

Vehicle Registration: PJ12PPX

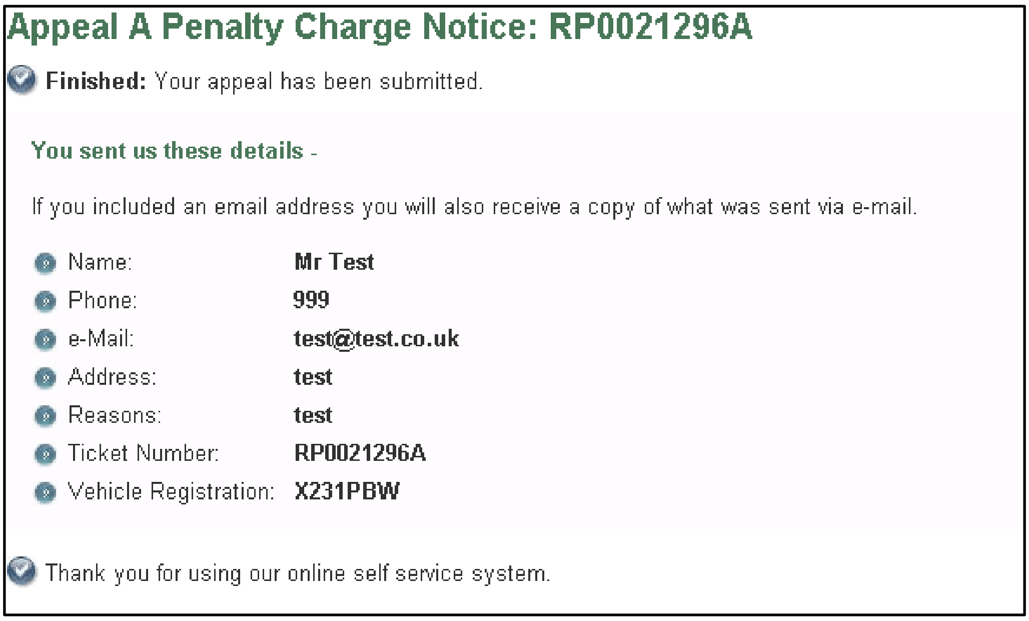
Please attach any relevant photos or evidence:

Please note entries with a red asterisk (*) denotes that information is mandatory.

You can pay your Excess Charge Notice here: Parking Fine (On Street)

Figure 4 – Main Appeal Form Screenshot

If the customer proceeds to submit an appeal they will see a confirmation screen (Figure 5). At the same time the appeal details are recorded in the gateway database.



Appeal A Penalty Charge Notice: RP0021296A

✓ **Finished:** Your appeal has been submitted.

You sent us these details -

If you included an email address you will also receive a copy of what was sent via e-mail.

Name:	**Mr Test**
Phone:	**999**
e-Mail:	**test@test.co.uk**
Address:	**test**
Reasons:	**test**
Ticket Number:	**RP0021296A**
Vehicle Registration:	**X231PBW**

✓ Thank you for using our online self service system.

Figure 5 – Appeal Confirmation Screenshot

At this point details of the appeal are sent to the back office applications systems and/or an email sent to the back office team.Customer service staff are notified by email for entry into their CRM system.

If the customer chooses to pay the fine the on-line payment form for the relevant council is displayed. When the payment is completed the record in gateway is updated to close the case and payment details are posted in the relevant councils' cash receipting application.

Results and Learning Points

Product Specific

After the first full six months of operation 541 customers have commenced the appeal process using the new on-line product. Those who enter the same number more than once are only counted once. The results of how the customers interact with the product are particularly interesting as no photographic evidence is displayed for one of the councils the relative merits of showing them can be compared.

District	Photos	Customers Starting Appeal*	
		Submit an Appeal %	Pay Fine from Form %
1	Yes	10.4	89.6
2	Yes	22.1	77.9
3	No	91.3	8.7
* Customers who enter a unique ticket number in the on-line Appeal form			

Table 1 – First Six Months Results

Before the on-line facility was available we could assume that all 541 customers would have lodged an appeal. This may not be the case as the ease of access via an on line facility may have encouraged more customers to contemplate lodging an appeal. Benchmarking data was collected for a six week period at district 2 before the implementation of the new system. When compared with the number of appeals post implementation there was a 70% reduction in the total number of appeals. Therefore, this saving was made even with approximately 10% more customers were accessing the on-line appeal page than appealed previously.

Districts 1 and 2 display the photographic evidence. This is not the case at District 3 where the actual number of appeals lodged has slightly risen (1%). The impact of showing the customer the evidence is clearly demonstrated in the table above. Therefore, the most significant conclusion is that an on-line car parking fine appeal product that includes the display of photographic evidence dramatically reduces the number of appeals made by customers and increases income.

Previously, the most common reason given for making an appeal was that an appropriate permit or parking ticket was on display at the time the parking fine ticket was issued. The photographs show that this is not the case removing the grounds for an appeal. This applies to most of the other reasons given such as no parking restriction signage or road markings visible. Allowing the customer to view these when they are considering an appeal is essential for the success of the product.

General

- More time is required for planning than development
- As much thought needs to be given to related business processes, stationary, printed documents, staff awareness and web site changes as to software development.
- To gain all the benefits promised by an Agile development methodology it not be used solely by the developers; it needs to be adopted corporately and for the whole product life cycle.
- There is a need to charge someone (Product Owner) from outside the back office service area with responsibility for controlling the specification of what gets developed
- There are many stakeholders even for a simple transaction
- A council's own data is not always freely available to for it to use; vendor contracts often restrict access to their application's data - particularly, getting our own data out of a hosted system is costly and complex
- We need to be mindful of requirement and project creep, phased development helps this.
- A relatively simple application such as parking appeals enabled us to develop many different parts of our toolkit (connections to back office systems, web services, reusable code for future development)
- Product Owners, rather than back office staff, can look at a system without being blinkered by existing/traditional working processes
- Programming a modular system of generic components initially takes time, but then produces complex applications rapidly
- Separating the application from the design allows us to re-use applications without having to spend a lot of time customising them
- The approach assists consolidation of back office systems between the three councils which in turn makes our development work much easier
- With this toolkit and gateway in place, it's important that selection of new back office systems follow the Procurement Policy, therefore supporting our development plans
- This was the first major use of open source software for development, which the team found to be mature and widely supported. The experience has been excellent.

Appendix 1 - Principles of SW2 Self-service Development

- Design is focused on the external customers' requirements
- Design is generic for all three districts with look and feel consistent across all transactions
- Only data required to complete the transaction is requested
- Development is in useable, manageable chunks and each is no more than four weeks work
- The need for officer involvement in the process is eliminated
- Identity authentication is appropriate for the transaction
- Transaction history is captured for customer viewing and management information
- Core data sets are the exclusive source of property and customer information

Appendix 2 – SW2 Development Toolkit

The South Worcestershire Customer End to End Self-Service Development Toolkit

The three district councils of Wychavon, Worcester City and Malvern Hills in collaboration with the Worcestershire Hub Customer Service Shared Service are developing both an enterprise architecture and on-line transactional presence to enable the transformation of the customer experience. The goal is to enable all types of customers to transact with the councils on-line and via mobile devices to fulfil their needs. This document is a description of the development toolkit.

There are three main components used for development; a programming language (Java Enterprise Edition), a portal and web platform (Liferay), an electronic forms system (Orbeon Forms).

Java Enterprise Edition was chosen as it is a hardware, web browser and operating system independent computer language which has become the most widespread across the web. It is open source and free to use.

Liferay is a system used by many organizations for web sites, intranets, content management, collaboration, and Web 2 features. It is also open source, written in Java and integrates well with the other chosen tools. There is a Liferay Market Place application store where companies and individuals can share/sell/buy applications.

Orbeon Forms complies with the XForms Standard allowing straightforward web service integration and the creation of transactional user interfaces. XForms is the Standard for on-line forms which makes use of XML to exchange information between itself and other software.

All of these tools are accessed via the Eclipse integrated development environment (IDE) for swift component and legacy application integration. The development team have created a ‘gateway’ solution that allows access to data in the large number of back office systems acquired by the councils over time, without the need for system specific code.

Other councils using the same toolkit include Camden Council and Devon County Council. It has also been used by the Foreign Office, and PFI Knowledge Solutions, the people who created the Knowledge Hub (https://knowledgehub.local.gov.uk/).

Devon County Council has been working on their self service offering since 2010. They have a well-defined development strategy and plans to use the toolkit for all their self-service offerings. Camden are using Liferay as the presentation layer for their self service applications, they use LiveLink as their web content management system (CMS), and rely heavily on web services to interact between the CMS, Liferay, and their back end systems. The SW2 development team are in contact with both these other councils to share learning and good practise.

For performance and to minimize the risk of compatibility issues, applications are hosted on the Java Enterprise Edition 6 server Glassfish.

Two products are used to aid development. Subversion is the chosen repository and version control tool for code. JIRA is the project tracker for planning, building and maintaining products. It is also used by Product Owners (see separate SW2 Product Owners’ Guide) to capture requirements and issues allowing prioritization of development needs. JIRA supports the Agile development project methodology