SAUCE:

A Universal document data encryption & validation solution

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Background.

The issue of determining the provenance of any communication from a bank or utility provider is a continuing battle against fraudsters, the migration to digital formats also exposes a serious weakness in the fraud protection of customers and institutions.

In addition, despite continuing innovation the most accurate way to validate an individual's identity and information remains through the provision of upward chain validation. i.e. the production of a document from a trusted 3rd party. However, the challenge of capturing and, more importantly, recognising data from digital images and hard documents is yet to be solved by the FinTech community and the added issue of validating documents means that human eye still remains the default option.

SAUCE: solves these problems by creating a secure, unique & queryable digital record for each individual document produced by originating participants in the scheme, regardless of format, meaning both the provenance of the document and the accuracy of the data are beyond question.

This proposal discusses a potential new product/business that could eliminate document and identity fraud as well as providing a commercially lucrative solution in the area of automated document data recognition and capture, The product is called **SAUCE:**

SAUCE: uses innovative QR code and encryption technology to capture, encrypt and store document meta-data within the document itself, regardless of document media type

SAUCE: provides originators and consumers with a free solution to validate the authenticity of financial documents and protect against phishing and identity theft attacks

SAUCE: is an innovative and alternative solution to complex yet ineffective OCR software and offers potentially 100% coverage of document data to commercial users

SAUCE: is cross media and can validate both hard-copy and digital documents

SAUCE: also has the inevitable outcome of creating a super set of data that can be resold or queried

Key Facts

- Costs to financial institutions to due to ID theft were £53m in 2015 for payment card fraud alone.
- Losses due to bank details that have been fraudulently obtained through unsolicited emails were £400m
- Phishing Scams Cost UK Consumers £174m In 2015
- 8,000,000 new credit applications are made every year in the UK, each of these is subject to FCA KYC rules

http://www.techweekeurope.co.uk/security/cyberwar/uk-phishing-attacks-rise-2015-183964
https://next.ft.com/content/e335211c-2105-11e6-aa98-db1e01fabc0c
https://fraudfacts16.financialfraudaction.org.uk/

What is the problem?

Document validation over electronic and physical channels is an increasing challenge for consumers and businesses. Having confidence in the source of documents regardless of their medium or delivery channel underpins both customer ID process and anti fraud methods. The ability to determine and act on this information is the real challenge.

For Institutions and consumers

- For many consumers the value of a single bank statement or utility bill to a fraudster is underestimated
- Fraudsters are able to exploit the knowledge gap of some consumers who struggle to keep up with the digital progression and the major institutions are yet to provide a robust solution
- Documents that are easily reproduced create an opportunity for document fraud and phishing attacks; costing both institutions and Consumers millions per year
- Many customers have difficulty distinguishing between genuine and fraudulent digital communications and the advice given by the institution is often too complex or too vague for many customers
- Although passwords and logon information can be protected, documents, once public, are significantly more vulnerable to attack
- Additionally, as a consumer, the process of proving ones identity when applying for credit can be confusing and time consuming
- Different institutions require different information it is not always clear what is acceptable, especially as institutions move from paper to digital communications

For business

- Proof and confirmation of an applicants identity is required by regulators when applying for a multitude of financial facilities
  - Loans
  - Bank accounts
  - Gov't docs (passport, driving licence etc.)
- Most institutions require that this is provided in a hard document form e.g. letter: Although, ironically, most institutions now ask that this is provided digitally by a scan or photo upload
- OCR* and document validation technology, although increasingly sophisticated, is unreliable and does not easily distinguish text properties or meta data without a continually changing set of sample documents to baseline against– limiting its effectiveness and ability to adapt quickly.
- In a world of paperless billing and statements hard copies are becoming increasingly rare which creates a number of practical and risk/security issues
  - As a business, how do I read, recognise, store and compare the information on a document issued by one of many different institutions in a way which enables standard integration with my application process?
  - How do I ensure that the digital image or hard copy of this document is genuine in terms of its origin and its content?
  - How do I ensure that digitally originated documents are genuine?

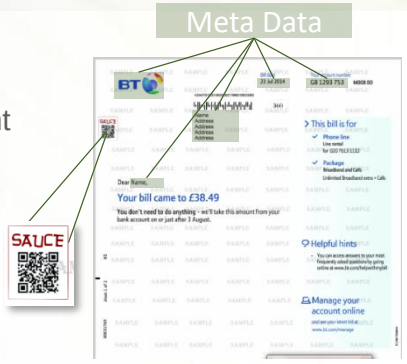
*Optical character recognition

SAUCE:

https://www.gov.uk/government/publications/proof-of-identity-checklist/proof-of-identity-checklist#proof-of-identity-checklist-for-individuals

What is the solution?

A cross business, encrypted & secure document tag and database, accessed by bespoke apps reading a unique QR code.

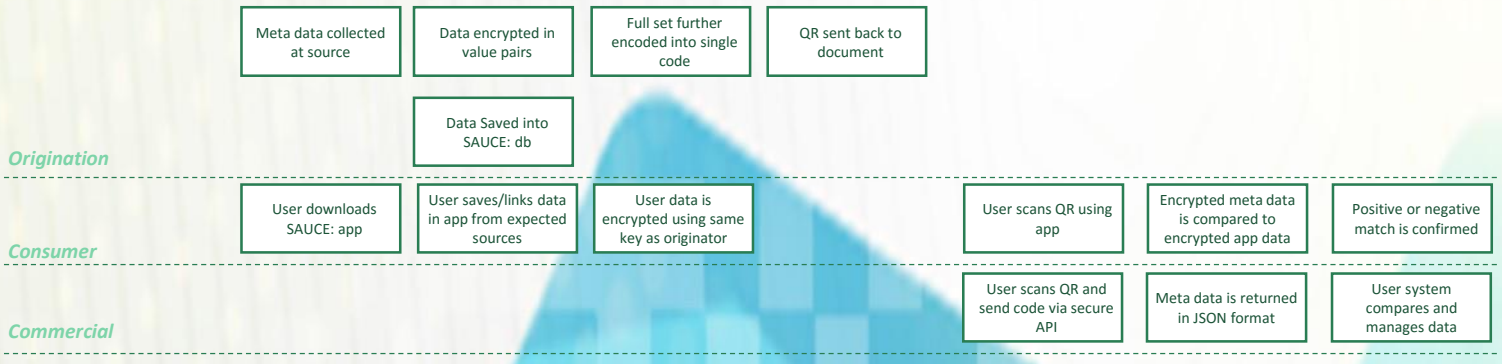


1. During the creation of a document the metadata is collected, encrypted and sent to SAUCE: via bespoke integration with the originating business
2. SAUCE: then encrypts and stores the information in both a secure code (stored in the QR code itself) and in a secure database. A QR code containing a key unique to the document is then returned and attached to the originator letter or email
   - QR code is unique to each document
   - Code cannot be decrypted or decoded by non SAUCE: readers
3. The recipient of the document then uses one of the SAUCE: tools to read and decrypt the meta data

Consumers: Through the provision of a bespoke QR scanning phone app, consumers will be able to scan the code, validating that the source of the document is genuine and the meta data matches their own personal details. This method will be provided free to consumers

Because the of the way the document meta-data is encrypted directly in the SAUCE: code, on the document, **no customer data is transmitted across the internet using this method**, reducing the risk of attack

Commercial: Commercial users will be given paid access to a secure API that will scan the codes, validate the provenance of the document and return the data in a format that will enable automation of application processing.



1. *Consumers receive instant validation of the provenance of an inbound document without exposing personal data across the web or clicking on any links*
2. *Commercial users are able to scan, validate and match documents with applications without human interaction*
3. *SAUCE: code is document type, medium and layout agnostic*

Commercials

Route to market – 3 pronged attack

- This product does not work without a critical mass of originators – namely big banks
- SAUCE: should aim to gain the recommendation of 2 key market influencers in the first 6 months
- We will engage with key banks to introduce and scope out the product
- In parallel, we will also engage with the document outsource and fulfilment providers e.g. DolMail, Prolog, OfficeTeam to create a value proposition within the fulfilment chain
- Also, we will engage influential commercial users (DVLA,DWP)
- Finally, we will engage with regulators (FCA, ICO) to investigate the appetite for sponsoring this product via FCA Innovation Hub or similar

Implementation

- Identify potential friendly contacts at originating institutions
- Identify the path of least resistance for on-boarding originators
- Road-trip or round table introduction of concept including prototype/pretotype demo
- Short data gathering engagement on client site to gather implementation requirements and help shape product design
- Create go-live solution, engaging client stakeholder at critical points
- Implement across all clients and DOS in “short” time frame to enable near instantaneous market launch
- PR based consumer awareness programme

Monetisation

- **SAUCE**: protection should be **free** to the consumer
- For originators the cost benefit is in quality anti fraud protection and PR, the value of which should be negotiated separately with each institution and paid for via a membership fee + additional support
- For commercial users there are a number of options
    - Validation charge
        - Charge commercial users a unit charge for each scanned document or subscription for high volume customers
        - Potentially rebate part of this charge to the document originator, creating an offsetting revenue line and upside share
    - Subscription charge
        - Each participating institution pays an instalment charge plus licence costs based on a volume or value
        - Intuitions must agree to be an originator and consumer
- Other revenue though sharing of accumulated data
    - Database matching for trace or further validation
    - Credit search augmentation
    - Possible data privacy and reciprocity rules to overcome

Risks and Considerations

Risk	Mitigation
SAUCE: is not commercially viable without high originator take-up	Consult and trial with a range of large and influential institutions from day 1. Keep consumer side functionality simple to initially focus on origination system coverage
There is little direct benefit to code originator, which could affect client take up	Document fraud, online fraud & identity theft cost banks over £500m in 2015, not to mention reputational damage. Restricting this is benefit. Monetise the usage of codes and reward the originator -and/or- Implement a reciprocity rule on the use of the data
Digitising document data could possibly increase the amount of fraud	Restrict the production of SAUCE: codes to trusted institutions through tight criteria and audit. Ensure a minimum criteria on meta-data to ensure maximum uniqueness Limit the amount of unencrypted data available to consumers – validate the rest against known data
Unauthorised readers would be able to retrieve full document data from only the code section of the document	No document data is stored unencrypted in the code, Ordinary QR readers would only be able to read a meaningless string of characters, whilst only limited data is available unencrypted via a public SAUCE: reader. Commercial users are restricted by IP and other infosec methods
Encouraging users to adopt the solution will be difficult.	SAUCE: provides a single point and click validation for users, vastly improving on vague current guidelines. Creating a strong joint PR message with the originators will encourage take-up. Set up of SAUCE: app will be made as simple as possible with integrations into originating organisations were possible to capture the required data

Development Plan & Commercials

Prototype and market developments (6 months)

- CEO/Consultant
- 3 x Software Engineers
- 1 x Bus Dev
- 0.25 x Exec
- 2 x Contractor
- Marketing/PR manager

- Concept Launch activity

- **Estimated- £245K cost**

Full development and 1st wave client implementation (6-24 months)

- Client side software specialists (contractor based on system)

- 1-2-1 client implementation
- Code reader add-ins & widgets created as required

- PR activity to raise public awareness
- 2nd tier client development

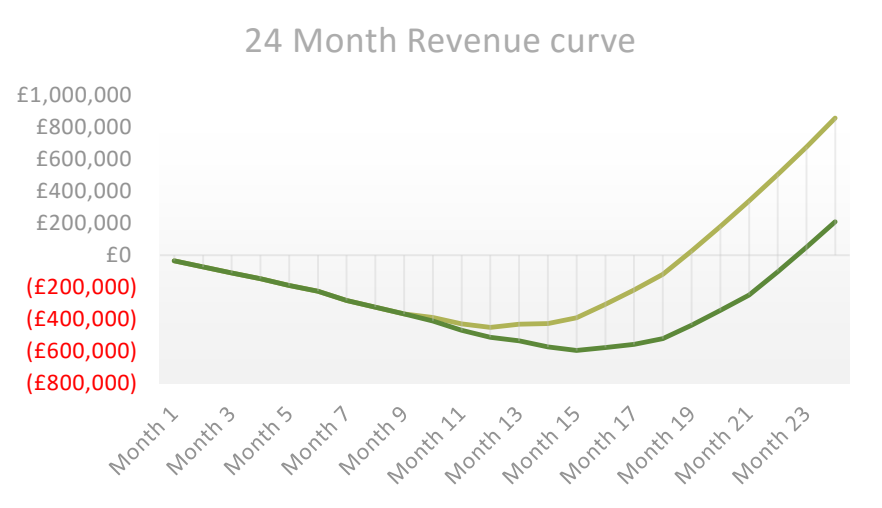
- **Estimated- £827k cost**
- **Estimated - £1.9M revenue**

What do I need from Investors?

- **This product does not work without a critical mass of originating participants – namely Big Banks**
- **By utilising the high level network of the BC board and partners this can be achieved far quicker and more effectively than a stand alone start up**
- **This product is clear fit for the BC "Gazelle" criteria with high growth potential and quick market entry**
- **BC is also able to provide the short term, high level logistical, technical and commercial resource required to build prototypes and test market at low risk**

What's in it for me?

- **CEO of the business and ownership of the product**
- **A moderate standard of living salary and minority equity stake**
- **The opportunity to build a reputation in the BC & Fintech communities**



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