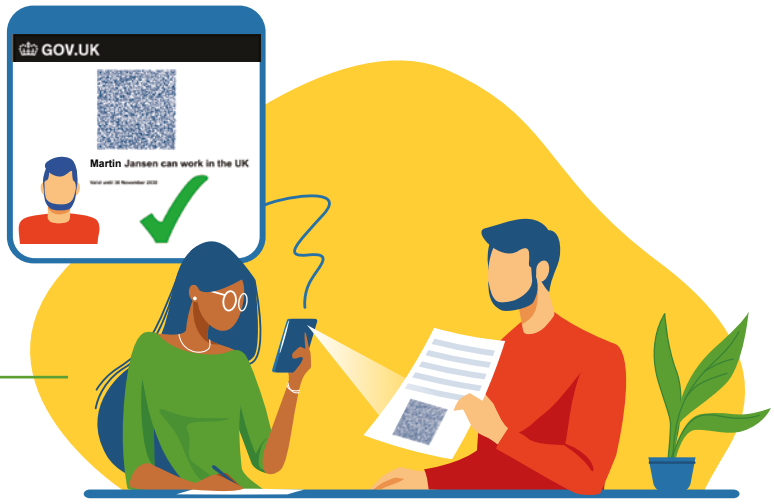
the 3 million

Fixing the digital status

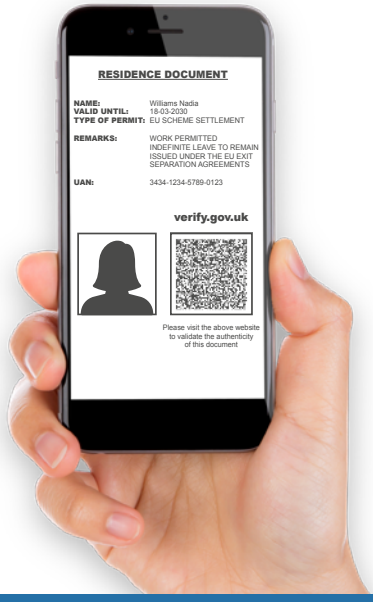
A proposal for a safe and simple proof of rights

This is how the UK's digital status **will work** for millions of people **from 1st July 2021**

This is how it **could** work for them – a simple, safe physical document, respecting data privacy rights



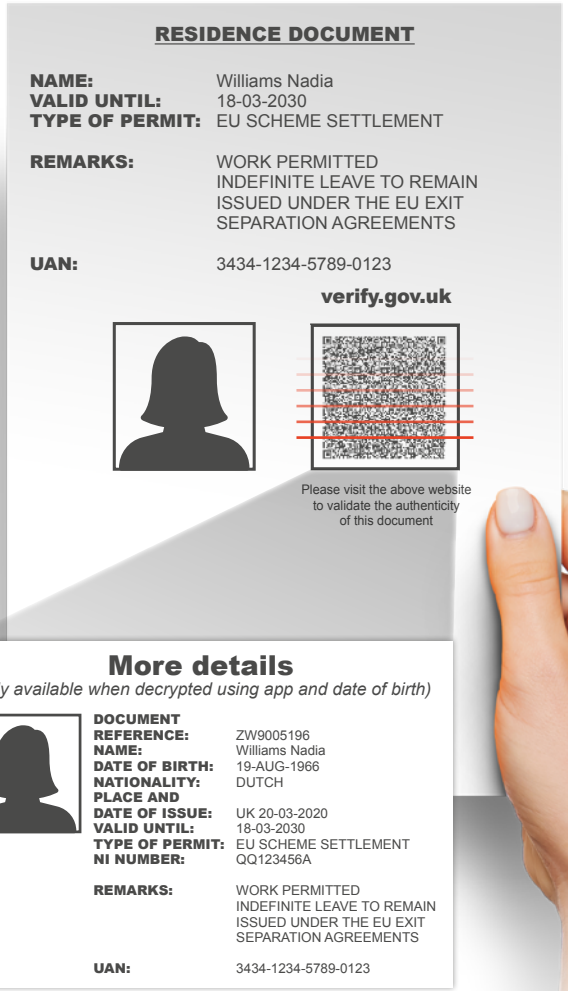
HOW IT MIGHT LOOK



On a mobile device

Sticker in passport

On a card



On paper

BACKGROUND

With the UK's exit from the European Union, EU free movement has ended. Millions of EU citizens have been granted a new digital-only immigration status, whereas the EU has mandated all member states to issue British citizens a uniform physical residence document.

Many **EU citizens are struggling with this untried digital-only status.** It is inaccessible for those with low digital literacy or certain disabilities, and it is reliant on Home Office systems. You need a smartphone or computer, access to the relevant email or SMS account, a reliable internet connection through Wi-Fi or 4G signal, and finally, you depend on the Home Office service and databases being up and running. A successful status check has many moving parts – if any one of these fails the whole check fails.

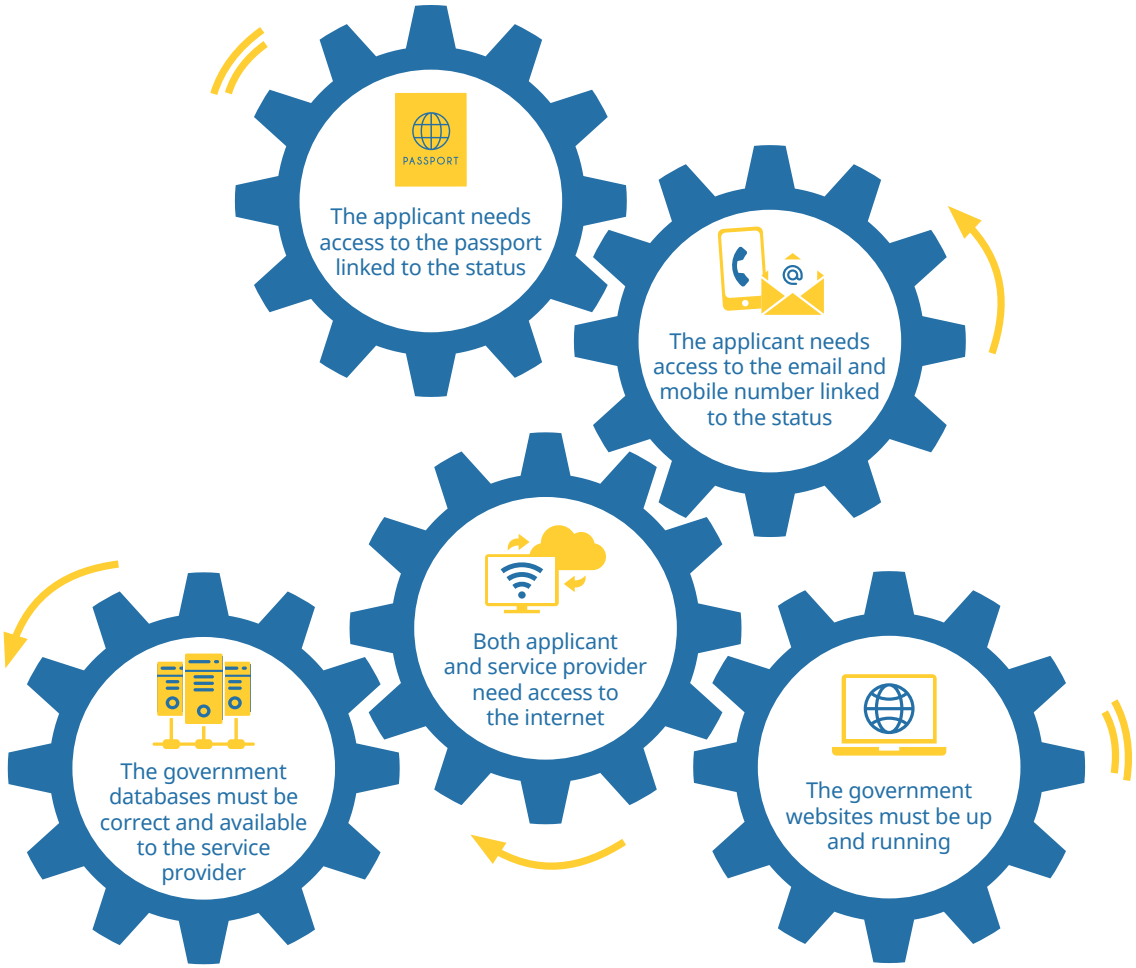
In the autumn of 2020, a House of Lords Immigration Bill amendment[1] called for "physical proof confirming pre-settled status or settled status to all EEA and Swiss nationals and their families who have been granted such status under the EU Settlement Scheme and who request such proof."

The Government's response included "If it is to serve as proof of status to third parties such as employers and landlords, and **as we need to reduce the risk of document fraud, this would mean issuing biometrics cards,** which would incur a **significant and unfunded cost,** not a small, insignificant cost."

It is understandable that the Government's concerns focus on security and cost.

However, there are solutions which would address both the Home Office's concerns on security and cost, and EU citizens' concerns over their data rights, privacy, accessibility and desire to have a permanent proof of status under their control.

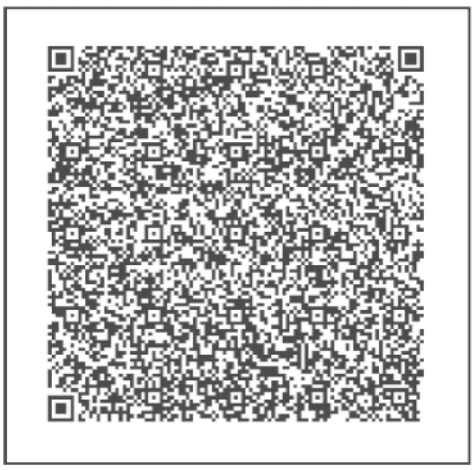
The time to discuss this safe and cost-effective alternative is now - as the Home Office has made clear that this new digital status will be optional to applicants to the new Hong Kong British National (Overseas) visa scheme, and that in time, biometrics cards will be phased out for all migrants.



(1) Immigration Bill debate 5 Oct 2020, column 474

HOW WOULD IT WORK?

- The existing EU Settlement Scheme (EUSS) could continue working exactly as it does at the moment, both in the way people apply to the system, are granted status, and their status is recorded in the Home Office's databases.



- However, alongside this, the Home Office would implement a "Secure QR Code" system. This can be developed in a very short period of time, within a minimal budget, as this is well-established technology.
- When a citizen is granted their status, they would be issued with a document showing the details of their immigration status. The document would also contain a secure QR code, which provides a means to verify that the document is authentic. This is conceptually similar to receiving a boarding pass for an aeroplane flight, with the difference that this code would be valid for many years, rather than a single event(2). Citizens who have already been granted status before this system is implemented would simply request the Home Office to send them a document with a Secure QR Code.
- The QR code would contain within it the encrypted details of the citizen's immigration status, even including their photograph. The code is impossible to tamper with and cannot have been produced by anyone other than the Home Office, since it would be digitally signed by a Home Office private key using well established Public Key Infrastructure (as also used in biometric passports).
- There should be different ways of issuing the document to the citizen – whether electronically or through the post. Citizens should be able to request the documents via a website or a dedicated telephone number. Citizens who receive it electronically could print their document, or have a friend or helping organisation print it for them. An option to issue the QR codes as stickers to be glued into passports could be explored. There are many possibilities to help prevent a digital divide.

  On the other hand, for someone who loves everything digital, they can simply rely on the document on their phone, and carry it with them that way. **The point is that it is entirely their choice, and under their control.**
- When a prospective employer or landlord wants to check someone's rights, they would be able to look at the document, and verify its authenticity by scanning the QR code. They could either do this by downloading an app from the Home Office website and using that for all their checks going forward. Or the Home Office might provide a facility to scan the QR code from its website (see Appendix A). Either way the service provider could trust the app or the website because website addresses that end in .gov.uk are strictly controlled. (The current digital status system relies on the same gov.uk fact for trust). The citizen's date of birth could be input as an extra security step to unlock the QR code.
- The citizen could show the service provider their QR code in any number of ways – if they were meeting face-to-face the citizen could hand over the paper document, or show the code from their phone. They could display the code in an online meeting. Or they could send the document to the provider electronically or by post. In other words, this would work exactly as if the user needed to show proof of a British passport or physical residence card but safer, since the employer or landlord could be sure that the code is authentic.
- And that's all there is to it! The proposed system can deal with revoked or updated immigration status (see details later in the document). It would still be digital, with all the advantages that come with modern technology. But crucially it would not discriminate against those who struggle with technology, do not have access to smartphones, or are cut off from the internet.

(2) Similar to expiry of biometric residence cards/permits and passports, and to the card given to British citizens living in the EU covered by the Withdrawal Agreement – para 9 of *https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/policies/borders-and-visas/document-security/docs/c2020_1114_commission-implementing-decision.pdf*

COMPARISON AT-A-GLANCE

The following tables show a comparison of features for three immigration status implementations:

- **Biometric card** – the existing biometric residence cards or permits that have been issued to non-EU citizens. The Home Office has stated[3] that it intends to also move non-EU citizens to digital status over time, although they do indicate that those citizens may still be able to have physical cards.
- **EUSS Digital –** the existing implementation of digital EUSS status. It involves the citizen visiting a website and using identity document details and two-factor authentication to generate a share code which is passed to the checking agent who needs to input the share code and date of birth into another website.
- **Physical Digital –** the Secure QR Code scheme discussed in this briefing paper as an alternative proposal to EUSS Digital. It involves the citizen being issued with a document which they can simply show (either in paper form or electronically) to the checking agent. The agent then verifies the authenticity of the document by using a scanning app (also inputting the citizen's date of birth) to decrypt the Secure QR Code.

The comparison tables are in four sections:

1. **Ease of use by citizen**
2. **Ease of use by checking agent**
3. **Security and cost**
4. **Additional features**

1 Ease of use by citizen	Biometric card	EUSS Digital	Physical Digital
Can be held / shown in both physical and digital form by citizen	✔ (4)	✖	✔
No connection to internet required by citizen when proving status	✔	✖	✔
Citizen has protection from Home Office loss of records[5]	✔	✖	✔
Citizen has privacy protection – there is no automatic logging of every right-to-work or right-to-rent check	✔	✖	✔
Can be used by citizens who are not digitally literate, or disabled (e.g. sight-impaired, learning disabilities)	✔	✖	✔
Time to replace if lost	wks/mths	–	instant[6]
Maintenance free – a citizen can access their status without needing to update central servers if passport, telephone, email, address are changed	✔	✖	✔

(3) *https://ilpa.org.uk/wp-content/uploads/2020/04/Reply-to-ILPA-1.pdf*
(4) Many citizens with biometric residence cards also have a digital UK immigration status
(5) *https://www.bbc.co.uk/news/uk-55691710*
(6) By citizen re-printing saved email or saved document, or by contacting the Home Office for a new document

2 Ease of use by checking agent

	Biometric card	EUSS Digital	Physical Digital
Easy verification of authenticity by non-expert	✗ (7)	–	✓ (8)
Status can be checked without internet connection	✓	✗	✓ (9)
Can be easily used by any checking agent without dedicated access systems (right-to-work, right-to-rent) or knowledge of valid UK documents – including international (e.g. foreign airport check-in staff)	✗	✗	✓
Checking agent has privacy protection – no automatic logging of every immigration check	✓	✗	✓
A checking agent who is not digitally literate can perform the check easily	✓	✗	✗

3 Security and cost

	Biometric card	EUSS Digital	Physical Digital
Military-grade security features, counterfeit and tamper-proof	✗	–	✓
Cost of security features	High (10)	–	Low (11)
Cost to produce per unit (or replace if lost)	£28 (est)	–	–

4 Additional features

	Biometric card	EUSS Digital	Physical Digital
Successfully deals with status revoked or updated by the Home Office	✗	✓	✓ (12)
No real-time dependency on Home Office web servers or database records	✓	✗	✓
Automated validation is possible for mass validation (e.g. border control) (13)	✗	?	✓

(7) Requires e.g. magnifiers, ultraviolet light sources, and detailed knowledge of security features – see *https://www.gov.uk/government/publications/recognising-fraudulent-identity-documents*
(8) Simple Home Office app will verify using PKI (Public Key Infrastructure)
(9) The checking agent only needs the internet to download the Home Office app for the first time, and from time to time to refresh the app. They do not need the internet to perform individual status checks.
(10) E.g. watermarks, holograms, random fibres, background print, special inks
(11) Public Key encryption – far more secure
(12) See question 3.1 further in this document
(13) See question 2.5 further in this document

Q & A

In this section we provide more information through a question and answer format.
There are four sections, showing questions from different user perspectives on the proposal:

1. **Citizen with immigration status –** the person needing to prove their status
2. **Checking agent –** for example an employer or landlord who needs to check someone's immigration status
3. **The Home Office –** responsible for immigration status and rights
4. **Society –** an examination of six principles that digital systems should adhere to

Q & A 1 Citizen with immigration status

Q1.1 I don't use computers, and I need to prove my right to rent to a prospective landlord. I am meeting them in person. How can I prove my right to rent?

A1.1: Someone will have been able to help you, at the time of getting your immigration status, to obtain a document showing your immigration status along with a QR code. You can show your prospective landlord this document, give them your date of birth, and they can then verify that the information on it is accurate by simply scanning the code on your document. This scan will tell your landlord that the photograph and details on your document are genuine, and they can check that the photograph matches you.

Q1.2 The prospective landlord is nervous about scanning the QR Code – how can I convince them?

A1.2: If the landlord has never come across this scheme before, they will not yet have an app to scan your code. However, your immigration status document will explain how they can safely get a Home Office approved scanning app, or use a Home Office webpage which can scan the document.

There are a lot of QR code scanning apps freely available, and many of them may not properly protect the user from phishing attacks or other security risks[14]. They should therefore not choose or download a scanning app directly from the App Store or Google Play, but instead go to the UK Government's Home Office website which will ensure that the correct app is downloaded from the app store, and not one which might masquerade as a Government app. A Home Office website could also directly allow the user to scan the code, by requesting permission from the user's camera. See Appendix A for a visual explanation of these options.

Your document will include the exact website from which they can download the app, for example **verify.gov.uk**[15]. The website address will have a domain ending in **".gov.uk",** and this is what gives security, because these website addresses are very tightly controlled[16][17].

It is important to realise that the current digital status scheme relies on **exactly** the same reassurance, as the landlord needs to go to *https://www.gov.uk/check-immigration-status* and be sure that this is not a website impersonating the Government.

For extra reassurance, you could tell the landlord that they can simply type in Gov.UK into their browser, and then search for 'Secure QR Code' from there:

(14) See this comparative study of QR code scanning apps: *https://www.mdpi.com/2078-2489/11/4/217/htm*
(15) This URL is for illustrative purposes only, as this Secure QR Code scheme is obviously a proposal at this stage.
(16) *https://www.gov.uk/guidance/check-if-your-organisation-can-get-a-govuk-domain-name*
(17) *https://www.whoishostingthis.com/resources/fake-gov/*

Q & A 1 Citizen with immigration status

Q1.3 My prospective landlord / employer doesn't use computers or smartphones. They say they want to see a physical proof of my status.

A1.3: For this reason, campaigners have argued that all people who want it should be issued with a biometric residence card as a backup proof of their status, since not all service providers in the country are ready for a digital status. Australia is the only country in the world which operates a fully digital visa system. However, they took over a decade to implement this and get the entire country used to the digital scheme. It included eight years where a physical backup of proof was freely available, and a further three years where a physical backup was available at a fee.

Therefore a biometric residence card should be available, on request, as a physical backup to all citizens who are given a digital UK immigration status. This should be available for several years ahead while landlords, employers and other agencies in the UK are given time to adjust to more digital methods.

However, this Secure QR Code proposal is aimed at providing a proportionate alternative to the current digital status implementation, since the current implementation excludes too many people, increases the digital divide, and introduces unacceptable violation of migrants' data rights by tracking and tracing every status check.

Q1.4 Someone helped me get settled status by setting up an email address for me and using their mobile phone because I don't have one. I'm looking to move apartments, and need to prove my status to a landlord, but I've no idea how to use email, so I'm stuck. How will this proposal help me?

A1.4: This Secure QR Code proposal is intended precisely to take away the need for you to interact with technology in any way when wishing to prove your status, while at the same time giving the checking agent confidence that the proof of status is genuine.

The current implementation of digital status – using two-factor authentication via a security code sent to a phone or email – relies on you being digitally skilled enough to use this technology, and on you having access to that phone or email. There will be many people (young children, some disabled people, vulnerable people) where someone else has applied on that person's behalf, using their own email address and telephone number. This creates a separation between the individual and their immigration status, controlled by someone else. This dependency contributes to a loss of dignity, can become problematic with the passing of time, and is open to exploitation.

With the Secure QR Code proposal on the other hand, you will need no technology whatsoever. You can simply show your document which you are able to keep within your own control.

Q1.5 If I have a remote job interview with a prospective employer, how can I prove my right to work with this Secure QR Code proposal?

A1.5: If you are holding your interview over something like Zoom, Teams, WebEx or one of the many types of e-meeting options, you should just be able give them your date of birth, show your code to the camera, and the prospective employer can scan the code – it's as simple as that.

Alternatively, you simply can send your document containing the QR Code to them via email or commonly used end-to-end encrypted communication channels, for example WhatsApp.

Q1.6 I'm very comfortable with digital verification systems, two-factor authentication, and use of a time-limited share code. I would prefer that to showing my passport or a QR code – can I still do that?

A1.6: It would be up to the Government to choose to run both schemes simultaneously. After all, for other systems like tax returns, there are various options running concurrently – filling in a paper form, or filing an online tax return. For the online option, there are currently two different ways of logging in, Government Gateway and Gov.UK Verify.

However, it is essential that a scheme exists which protects citizens' privacy, and which does not leave a citizen who is without internet connectivity, or without digital skills, excluded from being able to prove their right to live, rent, work and access healthcare and other services in the UK. The current two-factor authentication system with time limited share codes does not work for these people, or in situations where it is not possible to access the internet or the government website in real time.

Q & A 1 Citizen with immigration status

Q1.7 I don't have a driving licence or a passport. Part of the reason I want a physical proof of my immigration status is so that I can use it to prove my age in a pub. Will this work?

A1.7: Your immigration status is not primarily intended to be used in this way. It should be kept safe, and there are other ways of proving your age without a driving licence or passport. See the Government-backed PASS scheme[18].

It is important to remember that proof of immigration status should only be required in certain circumstances, e.g. the right to work, the right to rent, and the right to access healthcare and other benefits.

This immigration status document should therefore have specific and limited purpose, and not become a de-facto identity document by the back door.

On the other hand, from a technology point of view there is no reason that you could not use this as proof. For security, we propose that the document does not show a person's date of birth in plain text. However, if you give your date of birth to the person, the checking agent can scan and decrypt your Secure QR Code using an app and verify that the document is authentic, and that you are the age you say you are.

It will be important to ensure that the app does not log these scanning interactions with the Home Office or the Government in any way – the workings of the app will need to be transparent and its code audited.

Q1.8 If I want to prove my immigration status to a bank for example, to open a bank account, I don't want this to be logged at the Home Office. Does this proposal prevent that, and protect my privacy?

A1.8: This proposal assumes that the scanning app does not log checking interactions. This is to protect privacy. The aim of the scheme is to allow a user to easily prove their immigration status, and for the checker to be assured that the proof is genuine. There can be no justification for the State to be informed of these interactions.

The design of the Secure QR Code proposal ensures that it is not necessary to access any Home Office databases to ensure that that the code is genuine. All the information is held within the code, so can even be scanned without being connected to the internet.

Q1.9 I don't want my every job interview or every attempt to rent somewhere to be logged at the Home Office. How do I know this proposal will protect me?

A1.9: There will need to be legislation covering this, as it is essential that immigrants living in the UK have a right to privacy, even when they need to prove they have a lawful right to live in the UK.

The scanning app should be audited and certified as not logging transactions to the Home Office.

This will be a significant and vital improvement to the current digital status system where the citizen uses the www.gov.uk/view-prove-immigration-status website, the employer or landlord uses the www.gov.uk/check-immigration-status website, and all checks are therefore done through the Home Office websites.

Q1.10 I am worried that someone will steal a copy of my Secure QR Code and then use it for identity fraud.

A1.10: You should look after your document with your immigration status and Secure QR Code carefully. If you lose it, or you think someone has stolen it in some way, you would be able to inform the Home Office who can then block the code by adding it to a list of revoked codes. This means that anyone scanning the revoked code can know the code has been reported stolen, and this can help to find the perpetrator of the theft.

The Home Office should also be able to issue you with a document with a replacement Secure QR Code instantly.

It is important to remember that the worst that can happen if someone gains access to your Secure QR Code document, and also manages to find out your date of birth, is that they can fraudulently try to pass an immigration check by pretending to be you. They would need to look like you, as they will not be able to change the photograph held within the code. The loss is less serious than losing a passport, and the immigration status does not relate to any access to finances or other personal information.

(18) *https://www.pass-scheme.org.uk/card-suppliers/*

Q & A 1 Citizen with immigration status

Q1.11 If I lose my document containing my details and my Secure QR Code, what should I do?

A1.11: If you lose it and you are concerned that it could fall into someone else's hands, then you can report it to the Home Office (as described in the previous Q&A) and be issued with a replacement document with Secure QR Code. If you lose it but no-one else can have got it (for example it is accidentally shredded, or lost through fire), you can simply print another copy if the status was originally emailed to you and you kept your email, or you could request another copy from the Home Office to be printed from a Home Office website.

Q1.12 I am registered blind. How can I use this physical digital status?

A1.12: The Home Office currently provide Braille passport stickers to blind or partially sighted passport holders[19]. They should similarly agree to provide people with digital immigration status with a sticker to place in their passport, containing the QR code. Visa stickers, also called vignettes, are frequently used in passports[20].

These stickers could be a useful service to provide to anyone who requests them, not just blind or partially sighted citizens.

Q1.13 With the existing digital implementation of (pre-) settled status, I need to update my status via a Home Office website every time I change my telephone number, email address or identity document. Do I need to do the same with this physical digital proposal?

A1.13: No. The document with Secure QR Code is entirely separate from your identity document and is not reliant on your telephone number or email address to access it. So you won't need to do anything to maintain your proof of status.

Q1.14 How can check-in desks at airports all around the world know how to check my UK immigration status using this Secure QR Code?

A1.14: There are international systems in place which give up-to-date information to all travel carriers and ground check-in staff on how to check immigration status for each country.

Scanning technology is well established, including for example QR codes used on boarding passes. As travel starts to resume in the current pandemic, proof of vaccine records will likely be based on Secure QR Code technology.

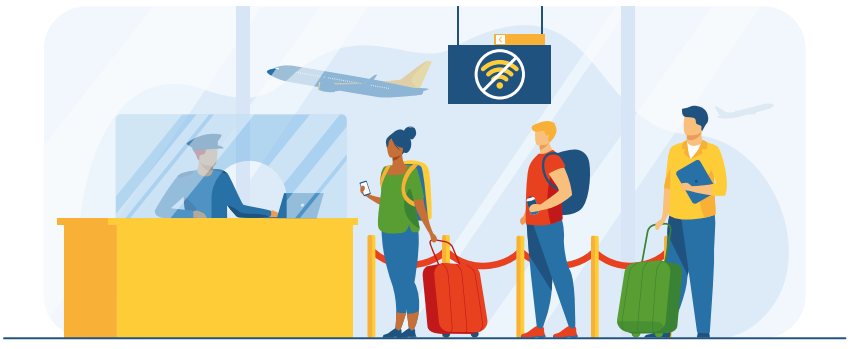
The two core advantages of the proposal are that firstly, the citizen does not have to interact with technology, and secondly, the checking agent will be able to verify its authenticity without requiring access to the internet or Home Office web servers.

Q1.15 I regularly fly from an airport where there is occasionally no Wi-Fi or internet connectivity for days on end. Will they still be able to see that I have the right to fly back to the UK?

A1.15: Yes, as mentioned in the previous question the scanning app will work without being connected to the internet. Each time it manages to connect to the internet however, it can refresh an internal cache of revoked codes.

This is similar to for example the technology used on the London Underground with regard to contactless payment cards – where each gate holds a cache of up to three million encrypted card numbers that should be refused.

This means that even in the absence of internet connectivity, the checking agent can have a high degree of confidence in the authenticity of the document.



(19) *https://www.gov.uk/passport-services-disabled*
(20) *https://www.gov.uk/government/publications/entry-clearance-vignettes-ecb09/ecb09-entry-clearance-vignettes-types-safeguarding-and-validity*

Q & A 2 Checking agent

Q2.1 I need to check a prospective employee's status, and they have presented me with a Secure QR Code. What do I do with it?

A2.1: As will be explained on the person's document which displays their immigration status, you can use an app to scan the Secure QR Code on their document which will verify that the information on the document is authentic.

You can then take a copy of the document, and store it in the same way as you would take a copy of someone's British passport, or biometric residence card/permit.

Q2.2 How can I be sure that this Secure QR Code actually came from the Home Office? There's so many QR codes around these days.

A2.2: These proposed Secure QR Codes will have been generated using PKI security (explained further in Q2.4). You can be confident of that by using an app which assumes the QR code has been encrypted with the Home Office's private key, and attempts to decrypt it with the freely available Home Office's public key. If the QR code had been encrypted by anyone other than the Home Office, this decryption with the Home Office's public key would not work.

To be sure that the app you are using is indeed using the Home Office public key internally, you should get the app by visiting the Home Office website (with the well-known, trusted website domain www.gov.uk) which will direct you to the correct app to download, or allow you to scan the QR code direct from their website. See Appendix A for a visual description of these options.

Q2.3 I am nervous of scanning a QR code because I hear that QR codes often take people to fraudulent websites.

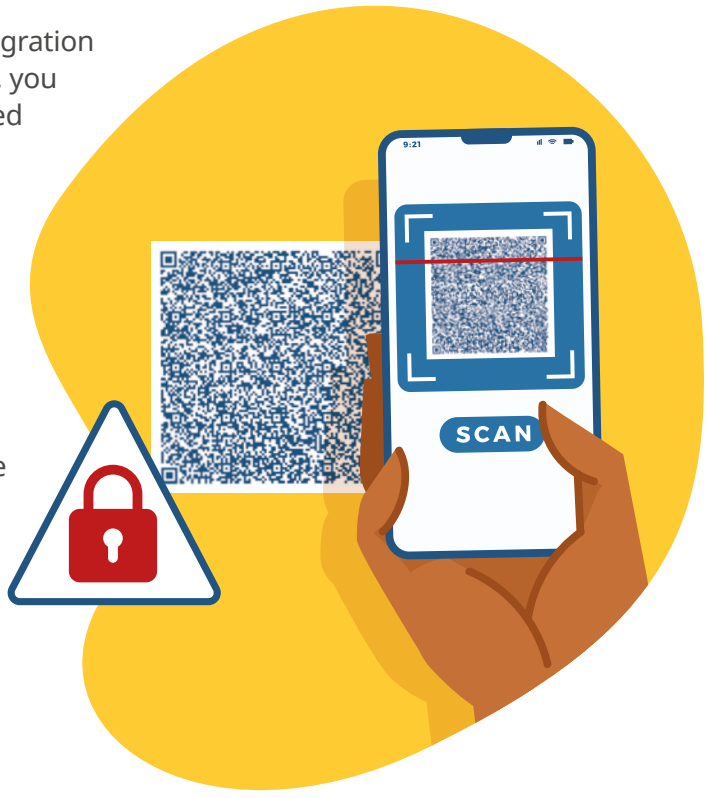
A2.3: You are right to be wary. We do not recommend the use of QR Codes which take people to external websites, as this is known as a 'phishing' risk. Our Secure QR Code proposal does not include any redirections to external websites – instead all required information is securely and completely contained within the Secure QR Code.

It is indeed not a good idea to scan random QR codes without trusting who created the code, or without using an app with security features which you trust.

In the case of someone presenting you with an immigration status with a claimed Secure QR Code on a document, you cannot know that the code was created from a trusted source.

However, you do have control over your choice of app with which you scan the code, and by using the Home Office app (as described in A2.2) you can be sure:

- firstly, that it will check that the QR code has been signed by the Home Office's private key (private keys are a component of military-grade PKI security technology), which means that no-one other than the Home Office could have generated the QR code; and
- secondly, that it will not take you to any external website, in fact the app can work completely offline without any access to the internet at the time of scanning.



Q2.4 How can I be sure this Secure QR Code hasn't been tampered with?

A2.4: The information within the QR code is securely encrypted using 'Public Key Infrastructure' (PKI). It has been signed with the Home Office's 'private key', and it also requires the user's date of birth to decrypt.

By scanning the QR code with an app which knows the Home Office's public key, and entering the user's date of birth, you can see the decrypted information, and be guaranteed that this information can only have originated from the Home Office.

It would be impossible to have tampered with it. Changing any of the markings on the QR Code would render the whole code unreadable. Furthermore, no-one can generate a QR code to be decrypted with the Home Office's public key, without having had access to the highly secure Home Office private key. PKI is existing, well established, military grade security technology.

The QR code contains all the details of the immigration status as seen on the rest of the document printed in English text, as well as the date of birth and photograph of the person holding the status. If someone had altered the image or text on the document, scanning the Secure QR Code would show you the unaltered image and text and alert you to the fact the document is not genuine.

Q2.5 As a major airline, it would be advantageous to us to allow travellers to include their immigration status in their pre-flight information, which our software systems could check programmatically, so that at check-in time we would already automatically know that the traveller had the right to travel to the UK. Does this proposal allow us to do this?

A2.5: Yes, it would be possible to provide a programming interface which accepts file image uploads, and then returns the Secure Code QR details to the calling application.

Q & A 3 Home Office

Q3.1 Currently, if we revoke the immigration status of someone who has a Biometric Residence Card/ Permit, we instruct them to return their card to us. With this proposal, how can we be sure that the individual cannot continue to use their Secure QR Code to gain employment after we revoke their status?

A3.1: You will be able to mark the person's Secure QR Code as cancelled, and the identifier of the Secure QR Code will be added to a list of revoked codes. The Home Office app which scans Secure QR Codes will periodically download a list of these revoked codes and hold it in a cache within the app. Note, the app will not contain the revoked QR codes themselves, only their identifiers.

Therefore the first time an employer, landlord or other agent attempts to scan this particular Secure QR Code, they will be informed that the code is no longer valid.

Q3.2 If we give someone a new immigration status (for example settled status instead of pre-settled status, or other variation of leave), how will that work if the Secure QR Code for their old status is still in circulation?

A3.2: As described in Q3.1, the Home Office can revoke someone's old status. At the same time, you issue the citizen a new document with a Secure QR Code which contains their new status.

Q3.3 We want to be informed of every time that an immigrant shows their immigration status to an employer, landlord or other agent. Our current digital status scheme enables us to do this, by ensuring that both the immigrant and the checking agent use our websites, and we can capture the interactions. Any replacement system will need to allow the same level of logging.

A3.3: This level of logging arguably violates the privacy of immigrants. The existing system does not adhere to several of the six principles for digital systems as proposed by the DCMS Digital Identity Strategy Board.

At a minimum, this logging by the state of immigrants' interactions with employers, landlords and other agents should be fully debated in Parliament. If Parliament decides that it is proportional to collect this information, then it is possible to do so from a technical perspective by implementing logging within the Home Office scanning app mentioned in this proposal.

In any event the source code of the scanning app should be fully audited, and the Government should be transparent about how data is used and who it is shared with.

Q & A 4 Society

Q The DCMS Digital Identity Strategy Board has developed six principles that digital systems should adhere to – privacy, transparency, inclusivity, interoperability, proportionality and good governance[21]. How does this 'physical digital' Secure QR Code proposal align with these principles?

A: It is important to note that our proposal is about proving immigration status – which non-British citizens are legally obligated to do at various points in their daily lives. Whereas the DMCS Digital Identity Strategy Board is about consulting on potential future solutions for digital identity for British citizens.

Some very important differences include:

1. Digital identity is something that citizens will be able to **choose** to use, if they think it will make their lives easier. It will be rolled out, if at all, **gradually** in the future.

   Whereas in contrast the current digital status implementation of the EU Settlement Scheme (EUSS) applies to over four million EEA/Swiss citizens who have no choice but to use this **mandatory** digital status as their ***only*** way of proving their immigration status after 1 July 2021.

2. If digital identity fails, people will still have other, more traditional, ways of proving their identity. Passports will still exist, along with birth certificates, national insurance records and other documents.

   For the EUSS digital status on the other hand, there is no backup. We have already heard of people losing job opportunities through several attempts of passing the prospective employer a 'share code' which was not recognised each time.

3. Finally but perhaps most importantly, digital identity is a concept which is being explored in depth through **consultation,** a call for evidence, and a pilot scheme. Principles have been drawn up to inform the government going forward to develop a legal framework.

   Whereas the existing EUSS digital status implementation has been rolled out without any consultation at all and indeed representations from civil society have been dismissed.

Ironically, the Government's own evaluation[22] of a digital right to work trial (for non-EU citizens in 2018) concluded that *"This research raises concerns around BRP cards being retired in favour of digital only services, as the team has very strong evidence that this would cause low digital users a lot of issues. This is something that needs careful consideration with the drive to convert more services to digital and potentially remove their physical counterparts – that* ***digital by default doesn't mean 100% digital.****"*

The Science and Technology Committee also published a 'Digital Government' report in 2019[23] which concluded: *"While we believe it is important for the Government to make its services end-to-end digital, it must do this in such a way that it* ***includes access to public services for those who are not digitally connected."***

Although these Digital Identity principles are about entirely distinct issues, the principles are nevertheless worth examining as they should apply equally to a digital system designed to prove immigration status.

The following section shows how each principle is met by both the **existing system** (citizen uses a government webpage with two-factor authentication and passes a share code to the checking agent who uses another government webpage to perform the check) and the **proposed system** (citizen shows a document with Secure QR Code to the checking agent, who then scans it with an app, entering the citizen's date of birth, to verify authenticity).

(21) *https://www.gov.uk/government/news/next-steps-outlined-for-uks-use-of-digital-identity*
(22) *https://www.gov.uk/service-standard-reports/prove-your-right-to-work-beta*
(23) *https://publications.parliament.uk/pa/cm201719/cmselect/*

1 PRIVACY

EXISTING SYSTEM

Since the citizen has to go through a Government website to obtain a share code, and the checking agent has to input this share code, the citizen is not sure whether this checking interaction is being logged. Many people have expressed their worry that their every attempt to rent a flat, every job application and every visit to a hospital is potentially being logged on a government database.

PROPOSED SYSTEM

The citizen needs no interaction with computers or the internet at all in order to present their status to the checking agent. The checking agent uses a scanning app which does not log to the Government websites, but simply verifies that the Secure QR Code was authentic and could only have been generated by the Home Office. By the app being audited, people could be assured that the checking interaction was not being logged or reported in any way.

2 TRANSPARENCY

EXISTING SYSTEM

As described under the privacy principle above, citizens do not know how their data is being used or shared. Other organisations such as banks are asking people to prove their immigration status, and this necessarily has to pass through the Home Office websites. Citizens do not know whether this information is being collected and stored, and if so for what purpose.

PROPOSED SYSTEM

With the Secure QR Code system described in this proposal, a bank would scan the code only to verify that the immigration status information was authentic, and the citizen could be assured that nothing further was being done with the data.

3 INCLUSIVITY

EXISTING SYSTEM

Citizens who are not digitally literate, citizens who are blind or sight impaired, citizens who have learning disabilities, vulnerable citizens without passports who obtained their status with help and legal representation via complex paper applications, will nevertheless have no way of proving their immigration status other than via a digital system. They will face severe barriers, as shown diagrammatically in the Appendix. The system is not inclusive.

PROPOSED SYSTEM

This aims to remove all digital barriers from the person holding the status, and allows them simply to present a document with their status. It is therefore much more inclusive. Anyone who needs help to ***apply for*** status in the first place can be helped to obtain their 'physical digital' document at the same time – and thereafter their status will be under their own control.

4 INTEROPERABILITY

EXISTING SYSTEM

The existing system can in principle be accessed from anywhere in the world, being a publicly available internet website. However it does require the Government website and Home Office systems to be continuously available, as checks are dependent on real time access to those systems and databases. We have already seen several time periods during which the systems were temporarily unavailable.

PROPOSED SYSTEM

The technology behind Secure QR Codes is well established, understood and highly secure. It is used worldwide, in myriad applications. There has recently been a lot of discussion around vaccine passports, to be used for international travel, and the consensus is around these using Secure QR Code technology[24]. Indeed, Israel has already begun issuing vaccine certificates which come with Secure QR Codes. Whilst there is understandably some controversy around the policy of vaccine passports, especially their domestic use, there will likely be a need for secure proof of vaccine status when travelling internationally. It is understood, at the time of writing, that the UK may be hoping to take a technology lead in this area.

It should therefore have many advantages to establish an immigration checking system based on the same Secure QR Code technology.

(24) See for example:
https://commonpass.org/ and *https://www.schengenvisainfo.com/news/denmark-plans-to-introduce-vaccine-passports-for-travelers-soon/*

5 PROPORTIONALITY

EXISTING SYSTEM

The two-factor authentication element of the EUSS digital status implementation gives a reasonably high degree of security to the citizen for the purpose of their immigration status. If their passport was stolen for example, the perpetrator is not able to impersonate the victim to generate a share code without also having access to the victim's telephone or email account.

On the other hand, loss of passport also immediately results in the victim's loss of proof of immigration status unless the citizen has saved their passport number. This is because, with the current digital system, they need to enter their number into the Home Office website to get proof of status.

Moreover, this security comes at a very high cost for those who do not have access to the right hardware or digital skills to use the system, especially in a legal environment (the so-called 'hostile environment' policies) where the consequences of not being able to prove immigration status can be severe, including loss of home and livelihood. Finally, the existing system does not offer immigrants data privacy. Their every status check requires logging in at a Home Office website.

The system therefore is not a proportionate way of implementing a digital-only immigration status.

PROPOSED SYSTEM

The Secure QR Code proposal will allow a thief to potentially impersonate a victim if they have obtained the QR code, along with the victim's date of birth. A date of birth is easier to obtain than someone's telephone or gaining access to their email account. However, firstly the perpetrator would still need to make efforts to physically resemble the photograph since it is impossible to tamper with the Secure QR Code. And secondly the victim can report the QR Code stolen which will expose the perpetrator at the very next time that they try to pass off the victim's immigration status as their own.

This, in our view, is a much more proportionate system, giving citizens much more data privacy, and shifting the technology burden entirely away from the citizen, while still leaving the checking agent with a high degree of trust in the authenticity of the citizen's document.

6 GOOD GOVERNANCE

EXISTING SYSTEM

The existing digital-only EUSS status was introduced via immigration rules and secondary legislation without any ethics consultations. Subsequent debates on this aspect of the system have resulted in amendments (carried with high majorities in the House of Lords) being voted down by the House of Commons on cost grounds only.

PROPOSED SYSTEM

In our proposal, no status checks should be logged in Government databases. If Parliament disagrees on this point however, Parliamentary debate and clear transparent legislation is required to cover any such logging that Parliament might decide is proportionate.

APPENDIX A

The following diagram shows the options that the checking agent has, to be able to scan the Secure QR Code. The checking agent is instructed (on the citizen's document) to go to a .gov.uk website (which can be trusted because .gov.uk websites are restricted, and this same principle underpins the trust in the current existing digital status system).

There, they will be given three options, all of which ensure that the Secure QR code can be decrypted if and only if the code was genuine and produced by the Home Office in the first place.

1. To scan the code directly using the mobile or laptop camera
2. To upload the document or a photo containing the secure QR code
3. To install a Home Office scanning app – this will direct the user to the App Store or Google Play, and ensure that the correct official app is installed (rather than potentially an app impersonating the Home Office). Once they have installed the app, they can simply use the app for all future status checks.

CHECKING AGENT EXPERIENCE

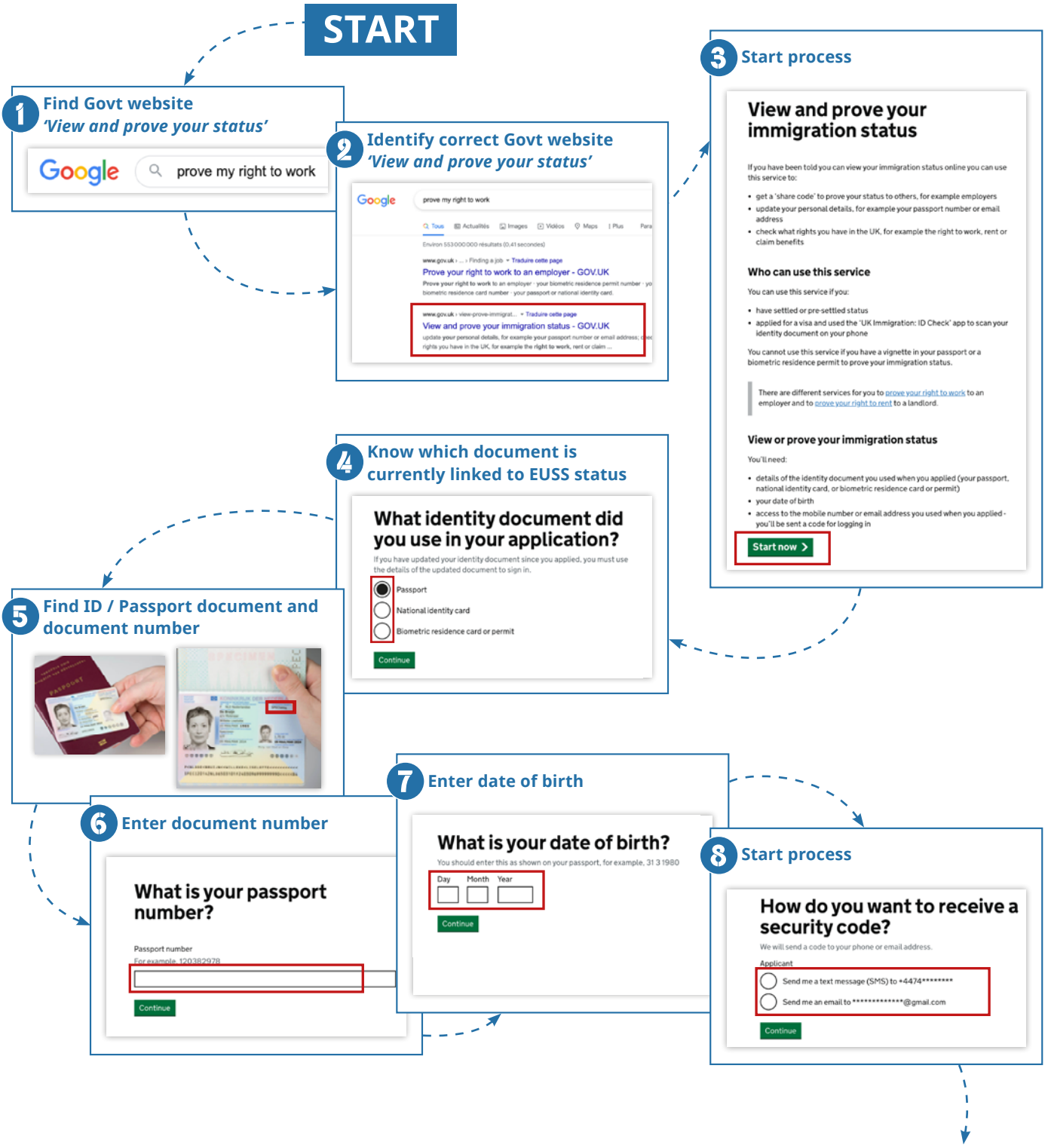
APPENDIX B

The following diagrams show how the existing system works when someone needs to prove their immigration status.

It also goes on to show all the points at which it can and does go wrong for people.

The digital divide stops people at step 1 of the process. However, even those who get beyond step 1 can encounter other hurdles, which will make it virtually impossible for those who are not confident with technology.

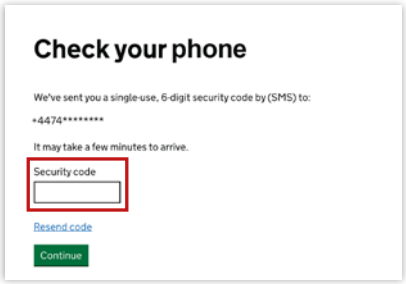
VIEW AND PROVE YOUR STATUS || CITIZEN || PAGE 1



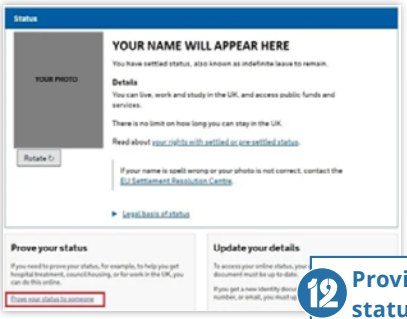
VIEW AND PROVE YOUR STATUS || CITIZEN || PAGE 2

9 Switch to email app or text message and wait for code (expires after 5 minutes)

10 Correctly enter code from email or text message into website



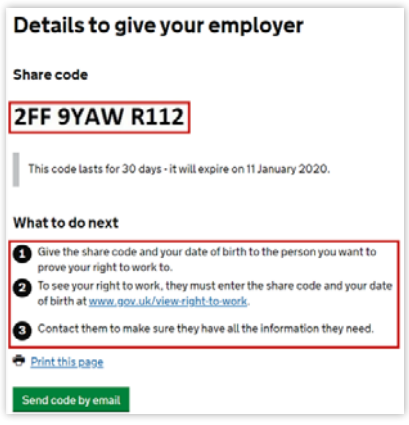
11 Find link on digital profile page to prove status to someone



12 Provide reason for proving your status

13 See preview of your right to work (but which is not proof of right to work)

14 Give the following to employer:
- Share code (expire after 30 days)
- Date of birth
- Correct website



! Similar for landlords or general sharing

VIEW AND PROVE YOUR STATUS – PROBLEMS || PAGE 1

START

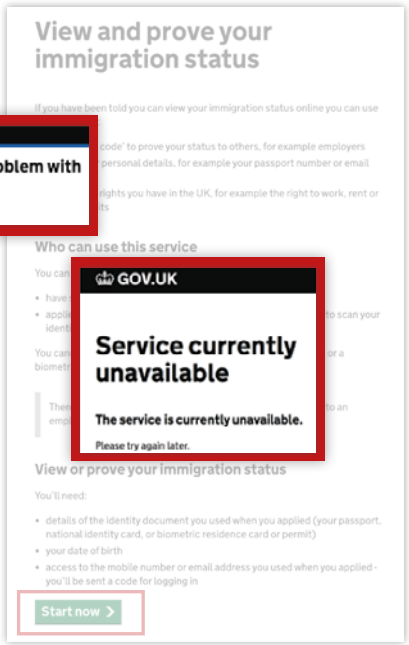
1 Find Govt website
'View and prove your status'

No access to, or don't know how to use, a smartphone, tablet or computer

2 Identify correct Govt website
'View and prove your status'

No Wi-Fi or internet connection

3 Start process



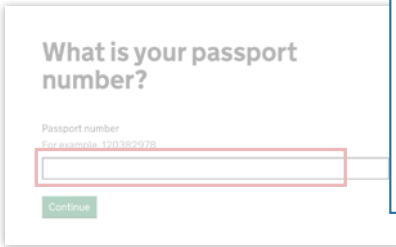
4 Know which document is currently linked to EUSS status

Recently submitted new identity document to Home Office, but now online service doesn't work with either old or new document

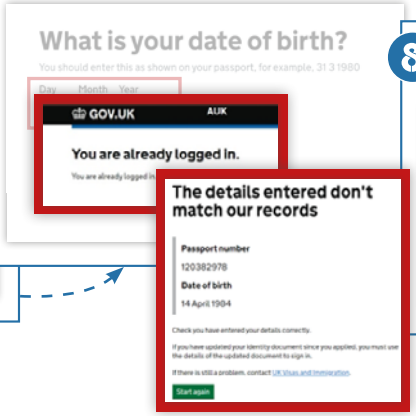
5 Find ID / Passport document and document number

Identity document was stolen or lost; or old document was retained by embassy when renewing document

6 Enter document number



7 Enter date of birth



8 Start process

No access to phone/email linked to status:

- **Status was set up with an organisation's phone or email**
- **Phone is lost – can't receive text**
- **Unable to access email at time of checkig status**

VIEW AND PROVE YOUR STATUS – PROBLEMS || PAGE 2

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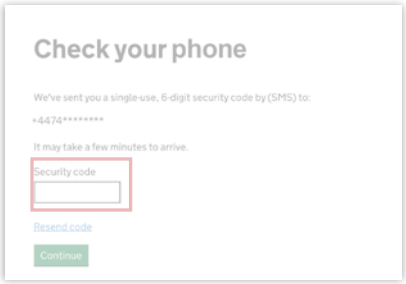
10 Correctly enter code from email or text message into website



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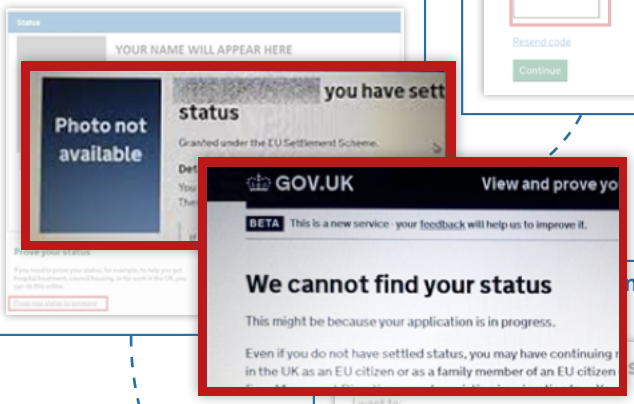

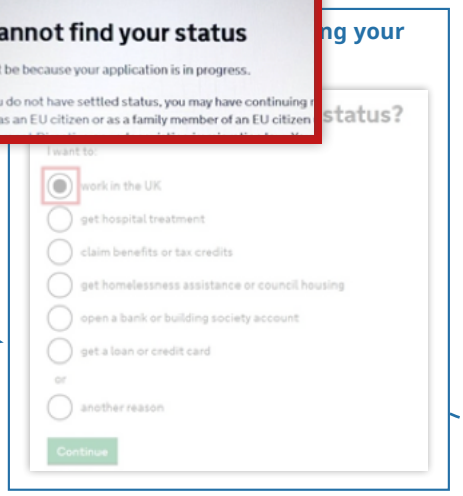

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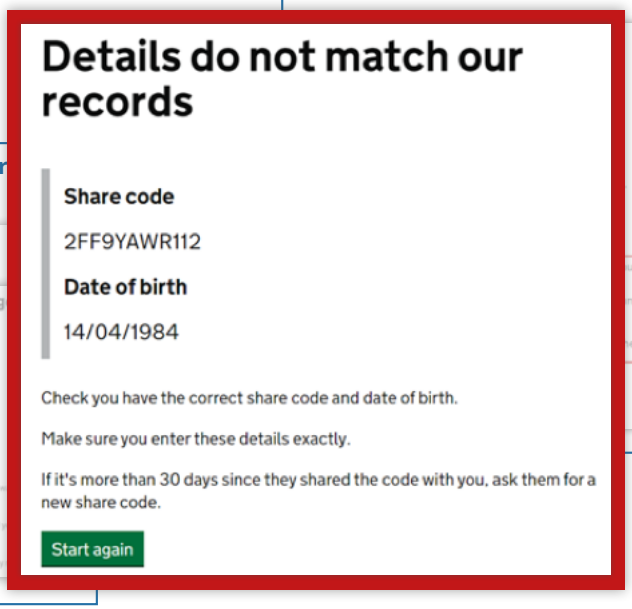
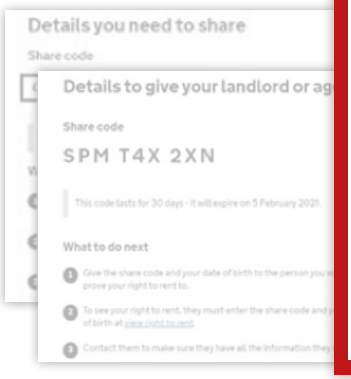


! Similar for landlords or gener
sharing



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