COVID-19 Digital Contact Tracing UK Timeline

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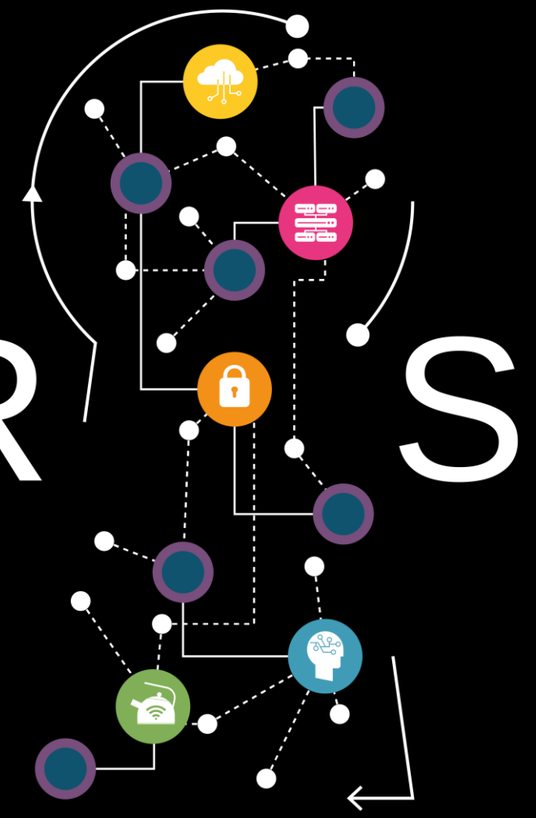

COVID-19 Digital Contact Tracing UK: Timeline

	Media	Concerns/Ethics	UK legislation	UK regulation	UK government	Europe	Research	Technology
17-Feb							A preprint (peer review June[1]) by members of SAGE on the efficacy of contact tracing for the containment of COVID-19 finds that the success of contact tracing relies on the speed and efficacy with which a person suspected of having the infection can be contained, and that some cases will generate at least unidentified secondary case which 'would need detecting by other means'.[2]	
11-Mar					A £500k contract (#1) to develop, deploy and maintain the NHS COVID-19 app is awarded to Go Pivotal (UK) Ltd.[3]			
12-Mar				The ICO release a statement on data protection and coronavirus stating that 'regarding competence with data protection, we will take into account the compelling public interest in the current health emergency'.[4]				
18-Mar					NHSX announce that they are 'looking at whether app-based solutions might be helpful in tracking and managing coronavirus'.[5]			
19-Mar						The European Data Protection Board makes a statement on the use of mobile location data.[6]		
21-Mar		An open letter signed by 'responsible technologists' calls upon the NHSX to follow best ethical practice when designing a contact tracing app.[7]						

[1] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7307459/
[2] https://www.medrxiv.org/content/10.1101/2020.02.14.20023036v1.full.pdf
[3] https://www.contractsfinder.service.gov.uk/Notice/d192d980-6fcd-4137-b9e0-29c47a9141e3?origin=SearchResults&p=1
[4] https://ico.org.uk/about-the-ico/news-and-events/news-and-blogs/2020/03/data-protection-and-coronavirus/
[5] https://www.hsj.co.uk/free-for-non-subscribers/nhs-developing-coronavirus-contact-tracking-app/7027163.article
[6] https://edpb.europa.eu/our-work-tools/our-documents/outros/statement-processing-personal-data-context-covid-19-outbreak_en
[7] https://medium.com/@rachelcoldicutt/open-letter-contract-tracking-and-nhsx-e503325b2703

23-Mar					A £1.3m contract (#2) for contact tracing app development and deployment is [awarded to Go Pivotal (UK) Ltd](). [8]			
03-Apr								A group of European scientists and researchers [propose a decentralised system for Bluetooth-based COVID-19 contact tracing](), called DP-3T, which they argue offers greater protection against abuse and misuse of people's data than apps which pull data into centralized pots. The current version of the open protocol was updated on 25 May. [9]
08-Apr						The European Commission [recommends developing a common EU Toolbox]() focusing on the use of apps for contact tracing. [10]		
10-Apr								Apple and Google announce a [partnership on COVID-19 contact tracing]() technology. The proposed solution is two-fold - both companies will first release APIs to enable interoperability between devices using apps developed by public health authorities, and secondly, will enable Bluetooth-based contact tracing into the underlying device platforms. Use of the Bluetooth functionality for contact tracing would require strong protections around user privacy from developers. [11]
11-Apr		A data rights academic, and member of the D3-PT consortium sends an email to representatives at the NHSx, NSCS, CDEI/DCMS and ICO stating Apple and Google's API 'appears to break' NHS's proposed digital contact tracing solution, and states that this will [presumably require a 'rewrite of the NHSX app' to align with a decentralised protocol](),						

[8] https://www.contractsfinder.service.gov.uk/Notice/ca3887ff-9485-4729-aa30-faff9ea894ec?origin=SearchResults&p=1
[9] https://github.com/DP-3T/documents/blob/master/DP3T%20White%20Paper.pdf
[10] https://op.europa.eu/en/publication-detail/-/publication/1e8b1520-7e0c-11ea-aea8-01aa75ed71a1/language-en
[11] https://www.blog.google/inside-google/company-announcements/apple-and-google-partner-covid-19-contact-tracing-technology/

		otherwise many users' phones will be required to have the screen on when in their pockets - a huge barrier for uptake.[12]						
12-Apr					The Health and Social Care Secretary announces the 'new NHS app for contact tracing' at the daily press briefing on the government's response to the COVID-19 pandemic. The statement details that the app will rely on self-diagnosis: 'if you become unwell with the symptoms of coronavirus, you can securely tell this new NHS app, and the app will then send an alert anonymously to other app users that you've been in significant contact with over the past few days...so that they know and can act accordingly'. In the statement, the Secretary commits to publishing the source code, and that they are working with experts in digital ethics.[13]			The DP-3T consortium release a statement on the Apple and Google joint specification stating that the proposal is similar to an early version of the D3-PT protocol and that they are happy to work with both companies. They encourage Apple and Google to adopt updated enhancements which increase user privacy.[14]
13-Apr			The first version of the Coronavirus (Safeguards) Bill 2020 (current version 6 May) is published online, as a way to provide safeguards in relation to contact tracing apps and symptom tracking. These safeguards are in addition to GDPR and ePrivacy Directive and are suggested in order to reassure against digital exclusion, ensure trustworthy uptake, data quality, data rights and accountability to an independent body.[15]					

[12] https://twitter.com/mikarv/status/1274647647832416256/photo/1
[13] https://www.gov.uk/government/speeches/health-and-social-care-secretarys-statement-on-coronavirus-covid-19-12-april-2020
[14] https://github.com/DP-3T/documents/commit/a0a88c3efebb40640a455886f7c63d7cc748f7e9#diff-ea0cd12131808821e2dc116c46719959
[15] https://osf.io/preprints/lawarxiv/yc6xu

14-Apr	Narrative in the media starts to focus on the problems that centralised contact tracing apps have encountered with Bluetooth functionality. The proposal that the NHS contact tracing app will have similar usability issues if it does not conform to a decentralised model is highlighted.[16]							
15-Apr						The European Parliament recommends a common EU approach to contact tracing apps pointing out that they may not be obligatory, be decentralised, and that the principles of data protection by design and data minimisation are observed.[17]		
16-Apr						The European Commision also published a Common EU Toolbox for Member States containing requirements for efficient tracing apps.[18]	A mathematical model developed by UK researchers for the NHSX found that 'the epidemic can be suppressed with 80% of all smartphone users using the app, or 56% of the population overall'. The research also discusses how rapid testing in the community would result in fewer quarantined people compared to self-diagnosis.[19]	
17-Apr				The ICO published a formal Opinion on the Google and Apple approach to contact tracing technology. The Opinion confirms that the Google and Apple framework appears to align with data protection principles.[20] The Information Commissioner released a series of questions to developers of contact tracing technology, to ensure that the 'privacy implications are properly considered, and that they do not put public trust and social licence at risk'. In the post, the ICO reveal they have offered advice and support on transparency and		The European Parliament adopts a resolution on coordinated action to combat the pandemic, and endorses a decentralised approach to contact tracing (Paragraph 52).[22]		

[16] https://unherd.com/2020/04/can-your-smartphone-crack-covid/
[17] https://www.europarl.europa.eu/doceo/document/RC-9-2020-0143_EN.html
[18] https://ec.europa.eu/health/sites/health/files/ehealth/docs/covid-19_apps_en.pdf
[19] https://github.com/BDI-pathogens/covid-19_instant_tracing/blob/master/Report%20-%20Effective%20Configurations%20of%20a%20Digital%20Contact%20Tracing%20App.pdf
[20] https://ico.org.uk/media/about-the-ico/documents/2617653/apple-google-api-opinion-final-april-2020.pdf

				governance of the NHS contact training app.[21]				
20-Apr		The Ada Lovelace Institute produce a rapid evidence review on the technical considerations and social implications of COVID-19 technology. The review urges the need to assess the efficacy and impact of digital contact tracing apps; the establishment of gatekeepers of the deployment of technologies in emergencies; and the adoption of additional safeguarding legislation.[23]						
21-Apr						The European Data Protection Board adopts guidelines on the use of location data and contact tracing tools. The guidelines recommend an interoperable framework and takes the position that contact tracing should be voluntary and focus on proximity information rather than tracing movement.[24]		
23-Apr					The NHS app is tested using 300 personnel and their families at RAF Leeming in a scenario set up to simulate people's experience of shopping.[25]			
24-Apr		The Ethics Advisory Board sends a letter to the Secretary of State for Health and Social Care which cautions against proceeding with the contact tracing app 'without widespread access to virological testing', and that 'false positive alerts could undermine trust in the app and cause undue stress to users'. The letter also states six principles to ensure the app is ethical[26].			The CEO of NHSX announces that they will be launching a contact tracing app 'in the coming weeks'. The announcement also states that NHSX will comply with 'law around the use of your data' and that they are working with Apple and Google on their support for tracing apps. They also commit to publishing the 'key security and privacy designs alongside the source code'.[27] A letter from PHE to directors of public health acknowledges an integrated			

[22] https://www.europarl.europa.eu/doceo/document/TA-9-2020-0054_EN.html
[21] https://ico.org.uk/about-the-ico/news-and-events/news-and-blogs/2020/04/combatting-covid-19-through-data-some-considerations-for-privacy/
[23] https://www.adalovelaceinstitute.org/wp-content/uploads/2020/04/Ada-Lovelace-Institute-Rapid-Evidence-Review-Exit-through-the-App-Store-April-2020-1.pdf
[24] https://edpb.europa.eu/sites/edpb/files/files/file1/edpb_guidelines_20200420_contact_tracing_covid_with_annex_en.pdf
[25] https://www.raf.mod.uk/news/articles/rafs-digital-airbase-tests-covid-19-tracking-app/
[27] https://www.nhsx.nhs.uk/blogs/digital-contact-tracing-protecting-nhs-and-saving-lives/

					approach to contact tracing, complementing traditional contact tracing methods.[28] The CEO of NHSX announces the establishment of an Ethics Advisory Board.[29] Membership includes members of the Centre for Data Ethics and Innovation board.[30] Links to the Ethics Board have since been deleted after the disbanding of the board, however the Terms of Reference remain.[31]			
28-Apr			The Science and Technology Committee hears oral evidence on the minimum safeguards on how technology can be used to ease lockdown. Speakers include the CEO of NHSX and the lead author of the proposed Coronavirus (Safeguards) Bill 2020.[32]					
29-Apr		A statement signed by 177 security and privacy researchers in the UK calls for the NHSX to publish a Data Protection Impact Assessment immediately.[33]						Apple and Google release the first version of their exposure notification API to developers to collect feedback.[34]
01-May		Ethical guidelines for digital contact tracing systems for COVID-19 are published by the Oxford Internet Institute comprising 12 factors to guide the design and development of ethical digital tracing systems.[35]			A £3.0m contract (#5) for the development and deployment of a minimum viable product and limited period of support of the app is awarded to VM Ware UK (formally known as Go Pivotal (UK) Ltd).[36]			
03-May							The National Cyber Security Centre publish a technical paper[37] and a blog[38] on the security and privacy characteristics of the app and infrastructure	

[26] https://nhsbsa-socialtracking.powerappsportals.com/EAB%20Letter%20to%20NHSx.pdf
[28] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/881231/Letter_to_DsPH_on_contact_tracing.pdf
[29] https://www.nhsx.nhs.uk/blogs/digital-contact-tracing-protecting-nhs-and-saving-lives/
[30] https://cdei.blog.gov.uk/2020/04/27/how-is-the-cdei-supporting-the-response-to-covid-19/
[31] https://www.nhsx.nhs.uk/media/documents/NHS_COVID-19_App_Ethics_Advisory_Board_Terms_of_Reference.pdf
[32] https://committees.parliament.uk/event/837/formal-meeting-oral-evidence-session/
[33] https://drive.google.com/file/d/1uB4LcQHMVP-oLzIIHA9SjKj1uMd3erGu/view
[34] https://techcrunch.com/2020/04/29/apple-and-google-release-first-seed-of-covid-19-exposure-notification-api-for-contact-tracing-app-developers/
[35] https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3582550
[36] https://www.contractsfinder.service.gov.uk/Notice/bac4cbf7-c439-4227-802a-c62af2adc035?origin=SearchResults&p=1
[37] https://www.ncsc.gov.uk/files/NHS-app-security-paper%20V0.1.pdf
[38] https://www.ncsc.gov.uk/blog-post/security-behind-nhs-contact-tracing-app

04-May		The Ada Lovelace Institute outline the steps required to make an app trustworthy before it's deployed and state that 'there is not yet the evidence and justification for an imminent national roll out'.[39]	A legal opinion on technological responses to COVID-19 states that a centralised system would require significant justification to be lawful.[40]	The Joint Committee on Human Rights hears oral evidence from the Information Commissioner, academics and the CEO of NHSX to explore how the right to privacy (Article 8 ECHR) can be protected if a contact tracing app is rolled out in the UK. The Information Commissioner calls for the NHSX to release the source code and Data Protection Impact Assessment.[41] The ICO publish expectations on how contact tracing solutions may be developed in line with data protection by design principles, and recommends best practice.[42]	The CEO of NHSX answers questions from the Joint Committee on Human Rights on whether it is possible for the NHSX to change from a centralised to a decentralised framework for the contact tracing app, and confirms that 'if we need to shift then we will'.[43]			Apple[44] and Google[45] release sample source code, example user interfaces and policies that developers must adhere to in order for their apps to be approved for use[46].
05-May								A proposal on the interoperability of decentralised proximity tracing systems is released by the DP-3T team.[47]
06-May				The NHSX release the Data Protection Impact Assessment for the NHS COVID-19 App Pilot Live Release Isle of Wight[48].	A new £3.9m contract (#8) is awarded to Swiss IT firm Zuhlke Engineering to 'support and run the proximity mobile application services for the UK'.[49]		A preprint study from Trinity College Dublin measures Bluetooth Low Energy (LE) received signal strength in real-world settings, and finds that 'development of accurate methods for proximity detection based on Bluetooth LE received signal strength is likely to be challenging'.[50]	The NHSX release the source code for the contact tracing app on GitHub (now archived)[51] and discuss the code in a blog post.[52]
07-May			The Joint Committee on Human Rights publishes a report on Human Rights and the Government's Respose to COVID-19: Digital Contact Tracing[53] and proposes a draft Bill, Digital Contact Training		Everyone on the Isle of Wight receives access to the NHS contact tracing app in a trial roll-out period.[55]			

[39] https://www.adalovelaceinstitute.org/wp-content/uploads/2020/05/Ada-Lovelace-Institute-Provisos-for-a-Contact-Tracing-App-4-May-2020.pdf
[40] https://www.awo.agency/covid-19-legal-opinion.pdf
[41] https://parliamentlive.tv/Event/Index/6f0f52cf-9fda-4785-bf63-af156d18b6c7
[42] https://ico.org.uk/media/for-organisations/documents/2617676/ico-contact-tracing-recommendations.pdf
[43] https://parliamentlive.tv/Event/Index/6f0f52cf-9fda-4785-bf63-af156d18b6c7
[44] https://developer.apple.com/exposure-notification/
[45] https://www.google.com/covid19/exposurenotifications/
[46] https://developer.apple.com/contact/request/download/Exposure_Notification_Addendum.pdf
[47] https://drive.google.com/file/d/1mGfE7rMKNmc51TG4ceE9PHEggN8rHOXk/edit
[48] https://faq.covid19.nhs.uk/DPIA%20COVID-19%20App%20PILOT%20LIVE%20RELEASE%20Isle%20of%20Wight%20Version%201.0.pdf
[49] https://www.contractsfinder.service.gov.uk/Notice/2d8c89c5-69d2-4073-88dd-401458a92134?origin=SearchResults&p=1
[51] https://github.com/nhsx
[52] https://www.nhsx.nhs.uk/blogs/code-behind-nhs-covid-19-app/
[50] https://www.scss.tcd.ie/Doug.Leith/pubs/bluetooth_rssi_study.pdf
[53] https://publications.parliament.uk/pa/jt5801/jtselect/jtrights/343/34302.htm

			(Data Protection) Bill, that would regulate the processing of information in respect of contact tracing.[54]					
08-May							A study exploring the feasibility of protecting the population using isolation coupled with digital contact tracing via a mobile phone application is published in Science. The study found that immediate notification through a contact tracing app would be sufficient to stop the epidemic if used by enough people, especially when combined with physical distancing. They advised careful oversight by an inclusive advisory body.[56]	
09-May		An analysis of the Data Protection Impact Assessment is written by a data rights expert and finds 'significant issues which leave the app falling short of data protection legislation'.[57]						
12-May						A new ETSI group is established to provide a standardisation framework to enable developers to build interoperable contact tracing apps.[58]		
13-May						The eHealth Network proposes guidelines for the cross-border interoperability of approved contact tracing apps to guide developers when designing apps. This is the first action to come from the European Commission's 'Toolbox' on 16 April.[59]		
18-May					The Secretary of State for Health and Social Care announces that 'everyone aged five and over with symptoms is now eligible for a test'[60]. The unavailability of testing was previously a reason why the development of the app required			

[55] https://www.iow.nhs.uk/news/CORONAVIRUS-TEST-TRACK-AND-TRACE-PLAN-LAUNCHED-ON-ISLE-OF-WIGHT.htm
[54] https://publications.parliament.uk/pa/jt5801/jtselect/jtrights/correspondence/Letter-to-Rt-Hon-Matt-Hancock-MP-Secretary-of-State-for-HSC-Draft-Bill.pdf
[56] https://science.sciencemag.org/content/368/6491/eabb6936
[57] https://osf.io/preprints/lawarxiv/6fvgh
[58] https://www.etsi.org/committee/1769-e4p
[59] https://ec.europa.eu/health/sites/health/files/ehealth/docs/contacttracing_mobileapps_guidelines_en.pdf
[60] https://hansard.parliament.uk/Commons/2020-05-18/debates/8FA78498-C990-4246-A745-AE0F36F7B948/Covid-19Response

					self-diagnosis of symptoms rather than a test diagnosis.			
19-May							A detailed security analysis of the released source code[61] for the NHS COVID-19 app is conducted by security experts, as well as a response by the NCSC.[62]	
20-May					Northern Ireland's minister of health announces that Northern Ireland is working on their own version of a contact tracing app, and that this was necessary to ensure that it is interoperable with the app being developed in the Republic of Ireland.[63]			
21-May			The UK government rejects calls for new legislation by the Joint Committee on Human Rights to enshine privacy protections around digital contact tracing.[64]					
28-May		The World Health Organisation releases ethical considerations to guide the use of digital proximity tracking technologies for contact tracing.[65]	The Leader of the House of Commons rejects a motion by the Joint Committee on Human Rights to raise their Digital Contact Tracing (Data Protection Bill) as a Private Members' Bill.[66]		The UK government launches the NHS Test and Trace service across England. The contact tracing apps are not supported by a contact tracing app.[67]			
29-May		The Joint Committee on Human Rights presents a new comparative analysis between the protections under the proposed Digital Contact Tracing (Data Protection Bill) and the existing situation under the Data Protection Act. The letter urges that the Secretary reconsider his decision to reject the Bill.[68]						
09-Jun	Media report that there is pressure to consider a different version of the contact tracing app which incorporates the Apple and Google framework.[69]							

[61] https://stateofit.com/UKContactTracing/
[62] https://www.ncsc.gov.uk/blog-post/nhs-covid-19-app-security-two-weeks-on
[63] https://niassembly.tv/committee-for-health-meeting-wednesday-20-may-2020/
[64] https://committees.parliament.uk/publications/1223/documents/10345/default/
[65] https://www.who.int/publications/i/item/WHO-2019-nCoV-Ethics_Contact_tracing_apps-2020.1
[66] https://committees.parliament.uk/publications/1283/documents/11444/default/
[67] https://www.gov.uk/government/news/government-launches-nhs-test-and-trace-service
[68] https://committees.parliament.uk/publications/1284/documents/11453/default/
[69] https://www.ft.com/content/5ba7dc0a-6fee-4f17-9894-e12dcf9ed286

16-Jun						European Member States agree to technical specifications for interoperability[70], which includes a ready-to-implement Federation Gateway Service[71] to connect all the backends behind the different national apps.		
18-Jun					Following the field testing of the NHS contact tracing app on the Isle of Wight, the UK government announces that development of the app will shift from the current app design to work with the Apple and Google framework.[72]			
Mid-Jun	Media reveal that lead project managers from the NHSX step back from the contact tracing app project, which will be handed to the NHS Test and Trace team to be managed by Simon Thompson, a former Apple executive and current CPO of Ocado.[73]							
24-Jun			The Joint Committee on Human Rights writes to the Secretary of State for Health and Social Services acknowledging that while some concerns have lifted with the switch to a decentralised contact tracing app, the public still require answers to topics on data protection, privacy and non-discrimination rights.[74]					
28-Jun	Media report that technical work on the new version of the contact tracing app is now being led by Swiss IT firm Zuhlke Engineering, who were awarded a contract back in May.[75]							
06-Jul		The Ada Lovelace Institute release a report on the lessons developers and policy makers must learn from the						

[70] https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1043
[71] https://ec.europa.eu/health/sites/health/files/ehealth/docs/mobileapps_interoperabilitydetailedelements_en.pdf
[72] https://www.gov.uk/government/news/next-phase-of-nhs-coronavirus-covid-19-app-announced
[73] https://www.bbc.co.uk/news/technology-53083340
[74] https://committees.parliament.uk/publications/1596/documents/20233/default/
[75] https://www.ft.com/content/2fb504a3-fbc7-40a8-8996-f7dae596c831

		public about COVID-19 technologies. The report identifies six lessons that should be used in design and development which consider the preferences and legitimate concerns of members of the public.[76]						
09-Jul							A preprint by the Alan Turing Institute investigating techniques for using Bluetooth Low Energy received signal strength as a proxy for distance between two smartphones suggests that 'good risk prediction can be achieved' in real-world data sets using 'Unscented Kalman Smoother with Gaussian process data distribution'.[77]	
14-Jul							A preprint shows the initial findings of the Test and Trace programme on the Isle of Wight, including the test version of the NHS contact tracing app. The results showed that the epidemic on the Isle of Wight was controlled 'more significantly' than other epidemics in other authorities, however the 'data is not yet available to establish a causal link'.[78]	
16-Jul			The Parliamentary Under Secretary of State for Innovation responds to the Joint Committee on Human Rights on privacy concerns surrounding the decentralised contact tracing app. The letter reaffirms the position that existing legislation is sufficient, and commits to completing a new Data Protection Impact Assessment and Privacy Notice, as well as an Equality and Health Inequalities Impact Assessment.[79]					

[76] https://www.adalovelaceinstitute.org/our-work/covid-19/covid-19-report-no-green-lights-no-red-lines/
[77] https://arxiv.org/abs/2007.05057
[78] https://www.medrxiv.org/content/10.1101/2020.07.12.20151753v1.full.pdf
[79] https://committees.parliament.uk/publications/1942/documents/18853/default/

20-Jul					The development of the revised contact tracing app became part of the Department of Health and Social Care's NHS Test and Trace Programme.[80]			
21-Jul	Media report on the inside story of the development of the contact tracing app, with agreement that there were fundamental flaws in changing expectations and commitments, as well as lack of clarity on the use of the app, with no one person responsible for the delivery.[81]							
23-Jul	Media report that the Ethics Advisory Board established in May to provide timely advice, guidance and recommendations on ethical issues during the development of the NHS contact tracing app has been disbanded.[82]							
30-Jul					A business plan is published by NHS Test and Trace shows commitment to an app that supports the NHS Test and Trace Service. The app will use the new Google/Apple framework to allow citizens to: identify symptoms, order a test and receive support if they need to self-isolate; enable people to scan the QR code of venues they have visited; and identify when they have been exposed to people who have COVID-19 or locations where there may have been a source. The app will be shortly released for a trial before further roll out.[83]			
13-Aug					A trial of the decentralised contact tracing app starts on the Isle of Wight as well as withNHS volunteer respondents in the UK. Shortly, this will be expanded			

[80] https://www.nhsx.nhs.uk/covid-19-response/nhs-covid-19-app/
[81] https://news.sky.com/story/coronavirus-the-inside-story-of-how-government-failed-to-develop-a-contact-tracing-app-12031282
[82] https://www.telegraph.co.uk/technology/2020/07/23/nhs-contact-tracing-app-ethics-board-scrapped/
[83] https://www.gov.uk/government/publications/developing-nhs-test-and-trace-business-plan/breaking-chains-of-covid-19-transmission-to-help-people-return-to-more-normal-lives-developing-the-nhs-test-and-trace-service

[redacted]					to residents in the London borough of Newham.[84]			

84 https://www.bbc.co.uk/news/technology-53765240

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