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HERITAGE

Guidelines for **COVID-19**



International alliance
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of heritage
in conflict areas

HERITAGE

Guidelines for COVID-19

Iraq, Libya, Syria, Yemen

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PART 3
BASIC DIGITAL TOOLS

Heritage Guidelines for COVID-19

BASIC DIGITAL TOOLS

Introduction

The world of Digital Services is ever expanding and ever competing for business and, in the recent lockdowns caused by COVID-19, Digital Services are gaining more attention. People need to be able to work over distances, to communicate and to share information and news.

This report looks at some of the most popular digital solutions that can be useful for communication and collaboration, looking at pros and cons and making recommendations. However, it should be noted that everybody's needs are different, and so there is no "one size fits all" solution. These recommendations are based on facility availability, cost, and ease of use; cultural concerns are also taken into account, where appropriate.

Be Aware

"Free" services

Before moving to specifics, a couple of truths about the digital age need to be stressed. For the most part, nothing is free – even if it doesn't appear to have a price. If you aren't being charged, then the organisation that is running the service you use is getting money from somewhere. In some cases, that will be advertising or selling data. For some, the free service may be considered an enticement to try to encourage more people to take paid options. Those who use the paid option are, essentially, paying for everybody else as well. Some may be charitable organisations who survive on donations. The only truly free options are distributed as shareware – and then you are unlikely to receive support if needed, so you'll need to know what you're doing.

Internet Safety

Users of the internet need to be aware of general safety and security concerns. No matter how seriously a company or developer takes security, very few services are completely safe. As long as something is on the internet, there will be ways for anybody to get to it and find it, either by computer hacking, social hacking (e.g. phishing attacks) or various other means. Once something is on the internet, people can find it and store it. Even the most security conscious of companies will make mistakes, and users should be careful to review privacy settings of their chosen platform and ensure these are set as required. Try out a browser with better security like Mozilla/Firefox or DuckDuckGo and try add-ons like AdBlock. Similarly, if you are offered features such as 2-factor identification (i.e. if you log-in from an unknown device you are asked to confirm your identity in an additional way), these are always a good idea.

The Cloud

The Cloud is a metaphor for the internet and is often used to refer to services that require the internet to function. If a file or data is said to be stored in the Cloud, then it means that it is stored on an internet server and can be accessed from anywhere with internet access. A Cloud-based service is one that requires access to the internet for full functionality (though some may have limited functionality when offline).

Encryption

A big issue in internet security is encryption, which is how your data is kept safe from people trying to intercept it or see what you are discussing. There are various types of encryption, and even within those the algorithms used vary in quality. Most popular systems gravitate towards the best algorithms available, but not in all cases. Almost any system will use basic encryption, with the next step up (and the minimum you should accept if you are concerned about your privacy) being end-to-end encryption, meaning that the actual provider of the software never sees an unencrypted version. The best available is referred to as zero-knowledge, which means that the provider couldn't look at it even if they wanted to, as the unique key needed to decrypt the data is stored on your device.

Social Media

Social Media platforms allow institutions to engage with their audience at home and have become a vital part of people's communication, allowing users to exchange experiences and opinions, express themselves, or gather knowledge. They are a key communication tool within the heritage sector. With the start of the Coronavirus pandemic, many cultural institutions around the globe have increasingly expanded their virtual activities on social platforms. Each of the tools listed here allows this, but most of them will have other functionality as well. As part of social networking, each allows direct messaging of other users, as well as posting/sharing more public content.

Identifying relevant Social Media channels

To effectively use Social Media it is important to understand which platform relevant communities are active on. There are several websites who offer information on the social platforms that various populations use. For example, StatCounter is an Irish company that is analysing global web traffic. Some data are publicly available on their website, such as country-specific statistics on usage of social media platforms. These statistics can be helpful in choosing the right platform: <https://gs.statcounter.com/social-media-stats/all>

Algorithms

Social Media, particularly Twitter and Facebook, are based on complex algorithms which are designed to offer content based on a user's favoured interactions, determining who will see your content. Understanding these algorithms is crucial to being able to create meaningful and visible content, and to enlarging an audience.

The algorithm is based on so-called "meaningful" interactions - it analyses the interactions of other users with your posts, and determines your "significance" on the basis of these results. This has a direct impact on the visibility of your page and your posts.

Four main factors boost the visibility of your content:

- Posts that trigger conversations (based on the number of comments and responses to comments your posts receive)
- Posts that receive reactions (via the "like" button)
- Posts that are being shared on other pages or via tools like Messenger
- The time someone spends reading or watching your post.

Hashtags

Hashtags are used to group posts under a specific theme or relate them to posts of other people and organisations with similar topics. Although hashtags are most commonly used on Twitter and Instagram, they potentially expand the reach of any message.

Filesharing

There are many different options available for cloud based file sharing, and most of them have a free version available, or a paid option which increases the amount of storage available. These are good solutions for back-up purposes, as well as easily synchronising files across multiple devices or with multiple users – you can easily share a link to a file on your account, allowing others to access it, rather than sending the file itself via e-mail (which can be a problem with large files). Obviously, internet access is required for them to synchronise. Some options allow real-time collaboration on files, or easy sharing of files for collaboration.

Virtual Private Networks (VPNs)

In simple terms, a VPN hides your device's address when it accesses the internet, so that anybody watching (including your Internet Service Provider or telephone contract provider) cannot tell what you are looking at, or where you are doing it from. In some cases, this can also be useful to look at websites as if you were browsing from a different country. They are considered important for those who are privacy conscious or are concerned about being watched or monitored on the internet.

Currently, there are 183 different Virtual Private Network (VPN) options available commercially, and each has different pros and cons, along with costing and features. It would be impossible to be even somewhat exhaustive in a discussion of these here. Adding to the confusion is the fact that many websites offering reviews or comparisons of VPNs are receiving commissions if you purchase based on that review, so they cannot necessarily be considered objective. The best comparison we have found is available at <https://thatoneprivacysite.net>. This provides tables summarising or detailing (depending on preference) the features, costs and concerns with the available VPNs. Many of these offer free trials so that you can test them yourself before committing. Some of them offer completely free services, but these generally come with restrictions such as monthly data caps. It should be noted that a VPN is not 100% effective. Some websites will be able to tell that you are using a VPN and will block your access to the site based upon this. Similarly, there is no absolutely sure-fire way to connect to the internet completely anonymously. If you only need a web browser that can allow you to use the internet anonymously, then a good and simple solution is Tor Browser (<https://www.torproject.org/download/>). This is completely free but is limited to a web browser, meaning that other applications won't be protected through it. If you need a solution to cover more than web browsing, then it is difficult to make a recommendation due to the many factors at play. Start with the comparison at That One Privacy Site, and then do further research from there if necessary.

Applications

It should be noted that software is being developed constantly, including updates to existing applications. We have attempted to make this guide as accurate as possible at the time of writing, but applications, listed in alphabetical order below, may have features that have been added more recently.

Cisco Webex Meetings – virtual meeting service

A system for web conferencing, holding virtual meetings and conversations, Cisco Webex is particularly notable for being able to accommodate one of the largest sizes of conferences.

The ability to share files during a meeting is good, though it isn't quite as simple to use as some other options.

<i>Cost:</i> Free for basic use, paid starts at \$13.50/month					
<i>Link:</i> https://www.webex.com/					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
Yes	Yes	Yes	Yes	No	Yes
<i>Pros:</i> <ul style="list-style-type: none"> • File sharing during a meeting • Free option is quite generous • Can accommodate up to 3000 people in a meeting (200 via video) 			<i>Cons:</i> <ul style="list-style-type: none"> • All users require an account to join a meeting • Free account meetings are limited to 50 minutes 		
<i>Security:</i> End-to-end encryption is available as a meeting option and more basic encryption is always in use					

Discord – social media and messaging (text, voice, video) service

Discord delivers a broad range of functionality, including text discussion, voice and video calls, screen sharing and file sharing. It's a popular social networking tool amongst gamers and heavy computer users, though they are currently working to rebrand themselves to more attractive to other users. Discord allows users to create their own servers and channels within them to focus discussion on a particular topic or business.

<i>Cost:</i> Free (with ability to purchase cosmetic options)					
<i>Link:</i> https://discord.com/					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
Yes	Yes	Yes	Yes	Yes	Yes
<i>Pros:</i> <ul style="list-style-type: none"> • Will work on any platform • Invitation based servers can cut down on spam • Ability to create new servers and channels can help to organise topics 			<i>Cons:</i> <ul style="list-style-type: none"> • Only basic levels of encryption • Layout can make it difficult to follow conversations • Quality of connection for voice/video can vary 		
<i>Security:</i> Only basic encryption rather than end-to-end. Also limited privacy within a server – if somebody is invited in, they can see everything there.					

Dropbox – cloud storage system

Dropbox was one of the first household names in Cloud storage and is still very popular today. It provides you with a folder on your device that will automatically be synchronised with their cloud servers for backup purposes. Once these files are in the cloud, they can easily be shared with others and, once shared, several users can collaborate on a file at once. Dropbox uses block-syncing, a technology that makes synchronisation fast, and is very flexible - you can use collaborate on either Microsoft Office files or Google Office files.

<i>Cost:</i> Free (2 GB), \$9.99/month (2000 GB), \$16.58/month (3000 GB)					
<i>Link:</i> https://www.dropbox.com					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
Yes	Yes	Yes	Yes	Yes	Yes
<i>Pros:</i> <ul style="list-style-type: none"> • Flexibility in types of files to collaborate with • Strong versioning and roll-back support • Linux support 			<i>Cons:</i> <ul style="list-style-type: none"> • Very expensive beyond the free account 		
<i>Security:</i> Files are encrypted, but Drobox’s privacy policy states that they will scan files and analyse them for security purposes.					

Facebook – social media service

Facebook is the giant of social media with more than a quarter of the planet having an account. It allows you to follow and share news, enter into discussions, arrange meetings and other events, share files amongst others. It allows long posts (up to 60,000 characters) and is, therefore, suitable for longer and more in-depth discussion than its competitors.

Any use of Facebook requires a connection to the internet, but Facebook Lite, a separate app that can work with a poorer level of connection, is also available. Facebook offers tools to help a user to boost the visibility of their Facebook page, including statistics (via Facebook Statistics) that can give insight into how your visitors are using your page and engaging with you.

<i>Cost:</i> Free					
<i>Link:</i> https://www.facebook.com					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
No	No	Yes	Yes	No	Yes
<i>Pros:</i> <ul style="list-style-type: none"> • Facebook already has a massive audience • Can be used for many different purposes • Extensive group functionality • Event management and promotion • Facebook Lite can help with poor network connectivity 			<i>Cons:</i> <ul style="list-style-type: none"> • Facebook has been known to censor content on behalf of governments (including Syria and Yemen) • Heavy use of advertising • So big that it can be difficult to find what you are looking for • Not available in all counties, though this can sometimes be bypassed with Virtual Private Networks (VPNs) 		
<i>Security:</i> Facebooks primary security concerns surround privacy of actual posts – Facebook has a robust set of options and filters for posts to ensure that they are as private as you want them to be, but users need to be careful to use them.					

Facebook Messenger – messaging (text, voice, video) service

Facebook Messenger is an integral part of Facebook, but is also available as a separate app. It provides users with the ability to message each other (either individually or in groups), to share files and to voice/video call. Messenger has recently added Messenger Rooms,

which allows larger groups to engage in a voice/video call (up to 50) which has been a welcome addition, albeit without some of the functionality of other solutions (beyond the voice/video call, it can only share screens – even having a separate text-chat requires a different window/app to be open).

<i>Cost:</i> Free					
<i>Link:</i> https://www.messenger.com					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
No	No	Yes	Yes	No	Yes
<i>Pros:</i> <ul style="list-style-type: none"> • Integrates completely with Facebook • Messenger Rooms are consistent (meaning that you only need to share a link once – it is then always available) 			<i>Cons:</i> <ul style="list-style-type: none"> • Can only receive messages from “friends” which can make it difficult to expand your network • Requires a Facebook account to register (though you can later deactivate this if you wish) • Requires internet connectivity to function • Messenger Rooms are limited in functionality compared to other solutions 		
<i>Security:</i> Only basic encryption by default, but you can choose to use end-to-end encryption for select conversations					

Facebook Workplace – virtual workspace

Workplace offers a very familiar environment to many, being modelled after Facebook, and has many different integrations to other software, so is a very flexible option too. It has a fairly limited free version, but the paid option is cheaper than alternatives and, if you work in a frontline, educational or non-profit charitable organisation, there are discounts available. If you have a Facebook Portal device (a separate device used for video calling), you can use it to access meetings set up through Facebook Workplace.

<i>Cost/user:</i> Free (Standard), \$4/month (Advanced), \$8/month (Enterprise)					
<i>Link:</i> https://www.workplace.com					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
Yes	Yes	Yes	Yes	No	No
<i>Pros:</i> <ul style="list-style-type: none"> • Uses similar interface to Facebook, so will be very familiar to many • Many different 3rd party software integrations available, making it very flexible • Paid options are cheaper than alternatives (especially if you qualify for the discount) 			<i>Cons:</i> <ul style="list-style-type: none"> • Free version is a little limited 		
<i>Security:</i> End-to-end encryption is available throughout, so should be very secure.					

FaceTime – messaging (voice, video) service

FaceTime was one of the earliest internet calling tools and is still popular amongst users of Apple devices. However, as the technology is proprietary, it has never moved beyond Apple devices, which is a problem if you have contacts that choose to use a different system. It is fairly limited in what it can do (only voice/video calls) but is very easy to use with excellent image quality and can handle calls including up to 32 people.

<i>Cost:</i> Free					
<i>Link:</i> https://apps.apple.com/us/app/facetime/id1110145091					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
No	Yes	Yes	No	No	No
<i>Pros:</i> Excellent image quality Reliable Easy to use Available by default on iPhone (and other Apple) devices			<i>Cons:</i> Only available for Apple devices		
<i>Security:</i> End-to-end encryption is set by default.					

Google Drive – cloud storage system

Google Drive is a Cloud storage solution that allows you to synchronise files between your device and a cloud server and to share them with others. If you have a Google account (e.g. Gmail) or one of many Android devices (that require a Google e-mail address) you will automatically have access to a free Google Drive account, which is generous. It offers collaboration on Google Office files between users.

<i>Cost:</i> Free (15 GB), \$1.67/month (100 GB), \$2.50/month (200 GB), \$8.33/month (2000 GB), \$99.99/month (10,000 GB), \$199.99/month (20,000 GB), \$299.99/month (30,000 GB)					
<i>Link:</i> https://drive.google.com/					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
Yes	Yes	Yes	Yes	No	Yes
<i>Pros:</i> <ul style="list-style-type: none"> • Very generous free account • Allows collaboration using Google Office • Photographs do not count against storage space • Massive amounts of space available if you can afford it • Good support for 3rd party applications 			<i>Cons:</i> <ul style="list-style-type: none"> • Slower synchronisation than other options • If you are using a gmail.com e-mail address, then your e-mails and attachments will be using some of your storage space 		
<i>Security:</i> Files are encrypted but Google’s privacy policy allows them to scan your content and use it to customise adverts for you.					

Google Hangouts – virtual meeting service

Google Hangouts is one of several Google services that allows for virtual meetings, depending on the scale required (it can accommodate up to 150 people in voice or 25 in video - Google DUO can work for smaller, or Google Meet if you need larger). On a computer (as opposed to a smartphone) it works via a web-browser, which can cause technical difficulties in allowing the use of your microphone or camera due to its use of pop-ups to ask permission to do these. Everybody needs to have a Google account to join the meeting.

<i>Cost:</i> Free					
<i>Link:</i> https://hangouts.google.com/					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
No	No	Yes	Yes	No	Yes
<i>Pros:</i>			<i>Cons:</i>		
<ul style="list-style-type: none"> • No downloads needed as it works through a webpage • Anybody with a Google account can join or host • Can record meetings without additional software • No time limits 			<ul style="list-style-type: none"> • Limited to 25 video participants • Can be difficult to set-up on a computer due to use of pop-ups (which many choose to block) 		
<i>Security:</i> Meetings are encrypted, but not end-to-end.					

IMO – messaging (text, voice, video) service

IMO is an app for messaging and calling contacts – in fact, it was one of the first options available for video calls. However, it has since lost its unique selling point as many platforms now have this functionality. However, it is still popular due to ease of use and is free (funded by advertising, though a \$1/month subscription is available which removes the adverts and provides 25GB cloud storage space). It doesn't appear to use any encryption at all, which will be a concern for the security or privacy conscious.

<i>Cost:</i> Free (with a premium option available for \$1/month)					
<i>Link:</i> https://www.imo.im/					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
No	No	Yes	Yes	No	No
<i>Pros:</i>			<i>Cons:</i>		
<ul style="list-style-type: none"> • Premium account offers some cloud storage • Simple to use 			<ul style="list-style-type: none"> • No encryption • Some users have reported problems calling international contacts 		
<i>Security:</i> No encryption at all					

Instagram – social media service

Instagram (owned by Facebook) is primarily used for marketing, brand creation and celebrities. Its functionality is limited to displaying and sharing visual material such as pictures, GIFs, videos and infographics with posts limited to 2,200 characters.

Instagram is especially popular amongst the younger generation (18-24) and therefore fits well for youth- oriented content. Hashtags are vital as they allow you to categorise your content within broader topics and themes which can be filtered and searched by other users.

An important point of Instagram posts and stories is the option to add a location (via inputting of a geographical reference), which can be done during post creation.

This allows content to be tagged to a place and users can filter posts by locations. This can be useful as such content is increasingly used by tourists to see what others have done at particular places. Searching for a location on Instagram will show every public post that has referenced that location. This does, of course, leave a trail showing where you have been, so you should only tag your posts in this way if you are comfortable with this.

<i>Cost:</i> Free					
<i>Link:</i> https://www.instagram.com					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
No	No	Yes	Yes	No	Yes
<i>Pros:</i> <ul style="list-style-type: none"> • Very popular with celebrities and younger people • Strong at brand building 			<i>Cons:</i> <ul style="list-style-type: none"> • The focus on image-based media means that Instagram probably can't be your only option 		
<i>Security:</i> Given that Instagram posts are, by default, publicly visible, the main concern here is that users should be careful that their privacy settings are being used properly.					

Microsoft Teams – virtual workspace

Microsoft Teams provides many of the benefits of virtual meeting software and also provides the ability so share files, schedule work and other management options. If you need a solution that goes beyond meetings into actually managing work or projects, then Teams may be a good choice. The free version offers many benefits with payment needed only if you want to increase storage space and security. There is full integration with Microsoft Office, so if you are already a subscriber or familiar with this package, Teams is a strong choice. It also offers integrations with other software, such as Yammer, Planer, Sharepoint and OneDrive.

<i>Cost/user:</i> Free (Basic use), \$5/month (Essentials), \$12.50/month (Premium)					
<i>Link:</i> https://www.microsoft.com/en-gb/microsoft-365/microsoft-teams/group-chat-software					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
Yes	Yes	Yes	Yes	Yes	Yes
<i>Pros:</i> <ul style="list-style-type: none"> • Strong integration with Microsoft Office products 			<i>Cons:</i> <ul style="list-style-type: none"> • Integrations are limited to Microsoft applications and products 		
<i>Security:</i> End-to-end encryption is used except with cloud file storage, which is more basic.					

OneDrive – cloud storage system

OneDrive is Microsoft answer for Cloud Storage and is a strong option. Many of the paid packages come with access to Microsoft Office 365 and are popular in their own right.

You also receive a number of free minutes per month in Skype. Whilst encryption is, generally, no stronger than many competitors, OneDrive has the option of placing select files in a “secure vault”, which increase security massively for those files. OneDrive also uses block-syncing for quick results. You can share synchronised files with others and, if they are Microsoft Office files, work on them collaboratively.

<i>Cost:</i> Free (5GB), \$1.99/month (100GB), \$5.83/month (1,000GB + access to Office365 Personal), \$8.33/month (5,000GB + access to Office365 Home), \$5.00/month (1,000GB), \$10.00/month (unlimited)					
<i>Link:</i> https://onedrive.live.com					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
Yes	Yes	Yes	Yes	No	Yes
<i>Pros:</i> <ul style="list-style-type: none"> • Integration with other Microsoft packages (including Office and Skype) is excellent • Personal Vault is a very secure option for select files 			<i>Cons:</i> <ul style="list-style-type: none"> • Customer support has been reported to be poor at times 		
<i>Security:</i> Standard encryption is used for most files, but the personal vault uses encrypts on your device before synchronisation and requires additional authentication to access, making it a very strong way to protect select files.					

Signal – messaging (text, voice, video)

If you are concerned with privacy, then Signal is an excellent choice for your messaging needs. However, with that additional security comes drawbacks – Signal can only call (voice or video) between two people rather than the larger groups that alternative solutions offer. However, end-to-end encryption by default makes Signal one of the safer options to use. It is paid for by donations and the developers have committed to keeping the service free. The platform has been blocked in some countries, but the developers have bypassed these with some success. However, the changing technical landscape (including U.S. Sanctions affecting what Google can do) make that success variable. A recent feature, developed to help in the sharing of images during protests, has been to blur faces in photographs.

<i>Cost:</i> Free					
<i>Link:</i> https://www.signal.org/					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
Yes	Yes	Yes	Yes	No	Yes
<i>Pros:</i> <ul style="list-style-type: none"> • Very secure encryption which is activated by default • Developers are active in improving the service • Can also handle your SMS contacts and messages • Time-limits can be used on messages 			<i>Cons:</i> <ul style="list-style-type: none"> • Limitation of only two participants in calls • Requires a telephone number to register, which may compromise privacy • Blocked in some countries 		

Security: Excellent encryption and developers are actively working to add additional features to aid with privacy

Skype – virtual meeting messaging (text, voice, video) service

Skype was one of the first digital solutions allowing users to meet on the internet, and is still considered a market leader by many, especially in business. Using it, you can call other Skype users at no cost and any other telephone through credit, which you can purchase either as you require it, or at a subscription (if you already have an Office365 paid account, it comes with 60 free minutes per month free). It handles meetings with small numbers well (up to 50 participants) and has a good design for text comments in meetings too.

More recently, Microsoft introduced Skype for Business, which focuses primarily on meetings and textual messages to others on a network. The two should not be mixed up – they are not compatible with each other! However, anybody can join a Skype meeting through a web interface if they have the link, so not everybody needs to have an account. You can record your conversations with Free Video Call Recorder for Skype (see <https://www.dvdvideosoft.com/products/dvd/Free-Video-Call-Recorder-for-Skype.htm>) though you should be careful and ensure that all participants are aware you are doing this.

<i>Cost:</i> Free to other Skype users or to host or join meetings, charges for calling non-Skype users					
<i>Link:</i> https://www.skype.com					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
Yes	Yes	Yes	Yes	Yes	Yes
<i>Pros:</i> <ul style="list-style-type: none"> • Webpage use as well as downloaded client • Ability to host meetings without needing to download anything • Some free minutes available with Office365 subscription 			<i>Cons:</i> <ul style="list-style-type: none"> • Performance can suffer with large numbers of participants • Incompatibility with Skype for Business is unintuitive and unhelpful 		
<i>Security:</i> Not encrypted by default, but end-to-end encryption is available.					

Slack – virtual workspace

Slack was one of the earliest tools in the area of virtual workspaces but has been outclassed in several ways. It offers good flexibility in integrations with other software, but in terms of storage available, number of participants in meetings (15) etc. it simply doesn't perform well compared to competitors now.

<i>Cost/user:</i> Free (Basic use), \$6.67/month (Standard), \$12/50/month (Plus)					
<i>Link:</i> https://slack.com					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
Yes	Yes	Yes	Yes	Yes	Yes
<i>Pros:</i> <ul style="list-style-type: none"> • Easy to set up • Huge number of integrations makes it very flexible 			<i>Cons:</i> <ul style="list-style-type: none"> • Limited core functionality compared to alternatives 		
<i>Security:</i> Slack does not use end-to-end encryption, so security is lower than many alternatives.					

Snapchat – messaging (text, voice, video) service

Snapchat is a multimedia messaging app that is available on iOS or Android devices. It is primarily designed for conversations using images and video, but also offers text, voice and video calls (16 participants) and the use of groups. Its main selling point is that images and videos are deleted after 24 hours, but this does not guarantee privacy (there is nothing stopping somebody from taking a picture of the image, for example). Snap Map allows your contacts to see where you are unless you go into “ghost mode”, and allows anybody to see snaps based on your location if you choose to make them public, which can be good for tourism or sharing images of a particular place. Whilst it is against Snapshot’s policies, it is heavily used for pornography which may discourage some users.

<i>Cost:</i> Free					
<i>Link:</i> https://www.snapchat.com					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
No	No	Yes	Yes	No	No (except Snap Map)
<i>Pros:</i> <ul style="list-style-type: none"> • Snap Map is a great feature for geographically focused content • Pictures are only temporarily available by default 			<i>Cons:</i> <ul style="list-style-type: none"> • Mostly popular with teenagers • An integral part of online pornography industry which may make some users uncomfortable 		
<i>Security:</i> The temporary nature of images and videos makes Snapchat relatively secure, but users need to be aware that this does not make them completely safe. Tools such as Snap Map include geographic data, which could lead to risk of identifying a user’s location (though this is opt-in). Snapchat have not proven as rigorous as some in fixing security holes, but they do use end-to-end encryption.					

Sync – cloud storage system

Sync is the cloud storage of choice if you want a secure option – it is far and away the best for this due to the use of zero-knowledge encryption. It is more expensive than other options, and synchronisation is slower but these are the compromises needed for this level of privacy and security. The lack of collaborative tools is unfortunate but, again, with the encryption used it wouldn’t really be feasible.

<i>Cost:</i> Free (5GB), \$5.00/month (200GB), \$8.00/month (2,000GB), \$10.00/month (3,000GB), \$15.00/month (4,000GB)					
<i>Link:</i> https://www.sync.com					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
Yes	Yes	Yes	Yes	No	Yes
<i>Pros:</i> <ul style="list-style-type: none"> • Zero-knowledge encryption makes Sync the best possible option for the security conscious 			<i>Cons:</i> <ul style="list-style-type: none"> • Does not allow any collaboration • Slow synchronisation (due to encryption) 		
<i>Security:</i> As good as it gets – files are end-to-end encrypted during synchronisation and the use of zero-knowledge encryption means that even with access to the server, you need your account credentials to read anything.					

Telegram – messaging (text, voice, video) service

Telegram is an app for messaging contacts and making voice and video calls. It has seen relatively low pick-up compared to competitors (such as WhatsApp), but offers some excellent features. It can support much larger groups than most (200,000 people – though video calls are limited to 10) and very large video files can be shared (up to 1.5GB). Messages are stored on a server, so you can access them from multiple devices, and it has a “dark mode” where messages are destroyed (including on the server) after a set duration for those concerned against privacy.

<i>Cost:</i> Free					
<i>Link:</i> https://www.telegram.com					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
Yes	Yes	Yes	Yes	Yes	Yes
<i>Pros:</i> <ul style="list-style-type: none"> • Cloud based service, so messages are available as long as you are online • Handles very large groups for text chat • Handles very large video files • “Dark Mode” is available for the security conscious 			<i>Cons:</i> <ul style="list-style-type: none"> • Cloud-based, so requires an internet connection • Does not yet have a wide audience • Requires registration with a telephone number (which can compromise privacy) 		
<i>Security:</i> “Dark Mode” conversations are end-to-end encrypted, and other conversations still receive more basic encryption.					

Twitter – social media service

Twitter is a social network service that allows users to share news in the forms of “tweets” which are limited to 280 characters, though they can also have images, videos and links included in them. This makes it very popular for sharing information found online and provides a very streamlined service. It can be much easier to find people who share your interests on Twitter, as opposed to alternative services, due to the heavy use of hashtags (#). Like other social media, Twitter relies on an internet connection, but Twitter Lite is available as an alternative that does not require so high quality a connection.

Twitter's main purpose is for sharing ideas and receiving real-time information and news. It is generally used for professional networking, making it more formal than alternatives such as Facebook. It is a very active platform for political discourse and is increasingly being used within the heritage field for sharing ideas, news and engaging with other practitioners around the world.

Tweets are, by default, visible to anybody and so users should be careful with what they post. Twitter has waned in popularity over the last few years in the Middle East, so the audience is not as wide as it may have been previously.

<i>Cost:</i> Free					
<i>Link:</i> https://www.twitter.com					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
No	No	Yes	Yes	No	Yes
<i>Pros:</i> <ul style="list-style-type: none"> • Many existing users • Very easy to link up with new people that share your interests • Twitter Lite is available to help with poor connectivity 			<i>Cons:</i> <ul style="list-style-type: none"> • Tweets must be short which can harm readability when trying to make longer points • Problems have been reported in the use of the Arabic language, where the use of profanity has resulted in suspensions (which would have been ignored in other languages) 		
<i>Security:</i> Whilst Twitter has had security problems over the last few years, they are committed to fixing them. Direct messages on Twitter are a common method of online abuse. Direct messages are not encrypted by default but have an end-to-end encryption option available.					

Viber – messaging (text, voice, video) service

Viber (technically Rakuten Viber) is a communication app. It has the typical features, including building groups and sending messages, images and videos, and can also make voice and video calls (up to 20 participants). Unlike many other solutions, Viber can also be used to contact non-Viber users (albeit with a charge). It is particularly popular in areas where WhatsApp has been blocked. Some users have reported concerns with how much information the software takes from your device before it can be registered.

<i>Cost:</i> Free to other Viber users, charges for Viber Out					
<i>Link:</i> https://www.viber.com					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
Yes	Yes	Yes	Yes	No	Yes

<p><i>Pros:</i></p> <ul style="list-style-type: none"> • Ability to call non-users (albeit with a charge) • Available on desktop as well as Android and iOS • Available widely 	<p><i>Cons:</i></p> <ul style="list-style-type: none"> • Cannot only use desktop – requires synchronisation to a mobile account • Very intrusive into personal information on device
<p><i>Security:</i> Viber uses end-to-end encryption, so calls and messages should be safe. However, Viber does interrogate your contacts information frequently, providing their servers with unnecessary information.</p>	

WeChat – social media and messaging (text, voice, video) service

WeChat is primarily a messaging service with group voice/video calling (up to 9 participants) but can also be used to share news and has other functionality which gives it a limited use for social media as well. It is very popular in China but has achieved limited penetration in the rest of the world. It is reputed to work well, with broader functionality than many of its competitors (including playing games with contacts, making payments and splitting bills), but many people have security concerns due to the owners of the platform being popularly believed to help the Chinese government with censorship and tracking.

<i>Cost:</i> Free (with ability to purchase cosmetic options)					
<i>Link:</i> https://www.wechat.com					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
Yes	Yes	Yes	Yes	No	Yes
<p><i>Pros:</i></p> <ul style="list-style-type: none"> • Broader functionality than many alternatives • If you want to reach a Chinese audience, this is probably essential <p>Secure from non-Chinese surveillance</p>			<p><i>Cons:</i></p> <ul style="list-style-type: none"> • Links with owner may be problematic for some users <p>Limited reach beyond China</p>		
<p><i>Security:</i> Basic encryption is used, but it is recognised that the owner helps the Chinese government with surveillance and WeChat is a part of this. However, if you aren't worried about the Chinese government, it's very safe from anywhere else.</p>					

WhatsApp – messaging (text, voice, video) service

WhatsApp is, currently, the world's most popular instant messaging app. It has good group functionality for text-chat (up to 256 members – 8 participants for voice or video calling) and can be used offline (with messages synchronising when you go online again). You can share pictures and videos, though videos are limited in length. It has recently been purchased by Facebook and is expected to be integrated with Messenger in the future. It is user-friendly, though registration requires a telephone number. Unfortunately, whilst desktop and mobile versions are available, the desktop version will not work until it can synchronise with a mobile device, and lacks most of the features of the mobile app.

<i>Cost:</i> Free					
<i>Link:</i> https://www.whatsapp.com					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
Yes	Yes	Yes	Yes	No	Yes
<i>Pros:</i> <ul style="list-style-type: none"> • Easy to use • Already widely adopted • Data is stored on device, rather than a server, meaning stored data is available when the internet is not available • Good group functionality 			<i>Cons:</i> <ul style="list-style-type: none"> • As messages are stored on device rather than a server, you will lose old messages when changing device • Registration requires a telephone number • Desktop app lacks functionality compared to mobile app 		
<i>Security:</i> End-to-end encryption means that messages should reach their destination securely, but the storage of messages on the device makes that device the weak link – if you lose your device, then not only do you lose your messages, but anybody who finds it may be able to read your messages without adequate security on the device itself.					

Zoom – virtual meeting service

Zoom has become very popular during recent lockdowns and has become the meeting room of choice for many academic institutions because of its facilities. It handles large meetings well because it works on a peer-to-peer basis, rather than server-client, and is very smooth. It also provides many tools to the meeting host, such as muting individuals and separating discussions into individual rooms and then bringing participants together again. The meeting and all chats can be downloaded. Meetings can have up to 100 participants, with that increasing to 500 if a “large meeting plan” add-on is purchased. Webinars can have up to 100 panelists with video, audio and screen sharing, with up to 10,000 viewers.

The downside of this it costs – free accounts can only host meetings for up to 40 minutes (unless they are between only two people). However, only the host needs a paid account to lift these limits. Not every participant needs a Zoom account and can join the meeting providing they have the link and password.

Zoom has had many security issues in recent months, though many of these have come from careless use (such as not keeping links to meetings private) but Zoom has published a great deal of guidance to help with these issues. Users also need to be aware that text chats, even between individuals, are automatically downloaded by the host if they choose to save the meeting. There are other security concerns, such as six-digit passwords for meetings being easy to break-through, but Zoom is working to fix these problems.

<i>Cost:</i> Free for basic use, paid use starts at \$14.99/month					
<i>Link:</i> https://zoom.us					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
Yes	Yes	Yes	Yes	Yes	Yes

<p><i>Pros:</i></p> <ul style="list-style-type: none"> • Easy to use • Peer-to-peer platform provides a strong and reliable performance • Full online meeting solution, including breakout rooms and other features 	<p><i>Cons:</i></p> <ul style="list-style-type: none"> • Free accounts are limited to hosting one-to-one meetings or 40 minute maximum • Hosts need to remember to use the privacy and security options that are available • There are still some outstanding security concerns (such as with passwords)
<p><i>Security:</i> Zoom uses end-to-end encryption and has an optional (albeit weak) password function to join a meeting. However, meeting hosts need to be careful when they create their meetings – otherwise anybody with the link may be able to join.</p>	

Recommendations

Which service you should choose will always depend on your own needs and requirements, as well as the budget you have available and your own confidence in computer or device use. In many cases, it is worth having multiple solutions available to you – they offer different benefits, and your audience or other contacts may have different preferences to yourself.

Social Media

Depending on the needs and human capacity of your institution, choose the platforms that are most relevant for your work. Facebook is best used to increase the interaction with your local community and build up a meaningful relationship. As Twitter is rarely used in MENA region countries, the focus of your work on Twitter should be to interact and network with the international heritage community and raise awareness of what is happening in your institution or site. Use relevant hashtags to be more easily found by other users – (see the different chapters on heritage (Part II) for more details on heritage-related hashtags and content production).

Use Instagram to brand your institution and bring it to the attention of influencers, and followers who have a big audience. This is the platform where you share visual material to make your institution attractive for others.

Keep in mind that visuality and continuity is key to all platforms. Visual posts attract a larger audience, and the continuity of regular posts keeps them engaged.

Discord can be a good choice if you are looking to find or start a discussion about a particular topic, but isn't as user-friendly or as easy to read as the other options.

Messaging

WhatsApp is the current leader purely through how many people currently use it, though Telegram and Signal offer better security. However, most of them are available for free, so it is worth using as many as you are confident keeping track of, in order to stay in contact with people that have made different choices.

Virtual Meetings

Despite the security concerns and higher cost, Zoom is probably the best option for meetings – it generally works to a very high standard and has greater functionality than others. However, if that cost is prohibitive then Skype or Google Hangouts make good free alternatives. Discord can also work well, though security is weaker.

Filesharing

All of them make good options depending on your needs. If you have an Office365 account anyway, then you receive significantly more OneDrive space which makes it an easy choice. Otherwise, it depends on how much you need to work collaboratively, your budget, and your concern for security.

Virtual Workspaces

Facebook Workplace is the cheapest option (especially if you qualify for the discounts), has many powerful integrations, and brings the familiarity of the Facebook interface. If you can afford it, it's very good. On the other hand, Microsoft Teams offers a stronger free option, and you may already have access to the higher-level plans through an Office365 subscription. However, before you decide to spend on one of these solutions, be sure you need one – you can achieve much of the same functionality through other services – they just won't all be in the same place.

Decentralised Solutions

Most of the options mentioned above have the flaw that they require you to be online when you use them. There may also be concerns for privacy, especially with American hosted data.

Scuttlebutt – decentralised protocol for messaging and social media

There is also the option of moving to a decentralised solution – one such being Scuttlebutt, developed in New Zealand. It works on a peer-to-peer basis, so everything is shared from one device to another when they happen to be on the same network or, if you are connected to the internet, you can choose to update using “pubs” – or central servers that work purely to pass information along without needing to be on the same network as another user. The encryption solution is strong, using unique keys identified for pairs of users, so you can only decrypt something if it was intended for you.

However, the true power is not needing to be constantly online. As everything is stored on your device, you only need to go onto a network or the internet occasionally, which synchronises everything relevant onto your device.

<i>Cost:</i> Free					
<i>Link:</i> https://scuttlebutt.nz/					
<i>Windows</i>	<i>MacOS</i>	<i>iOS</i>	<i>Android</i>	<i>Linux</i>	<i>Browser</i>
Varies by application					
<i>Pros:</i> <ul style="list-style-type: none">• Decentralised solutions do not require you to always be connected to the internet• Absolute privacy as all data is passed peer-to-peer rather than through servers• Open-source so new uses are being developed			<i>Cons:</i> <ul style="list-style-type: none">• Making a start can be trickier than traditional solutions• Requires more technical knowledge than some		
<i>Security:</i> All data is held on your device, so is as secure as your device is. Everything is encrypted, with decryption occurring on each device as required (if it has the appropriate key), so security is very strong.					

As Scuttlebutt is a protocol rather than a platform in its own right, it is possible to create new applications to take advantage of it, or simply use ones that have already been created (such as Patchwork – the Scuttlebutt enabled news and message sharing app, or Manyverse which is a social network). It requires a little more work, as you might need to build your network from scratch, but it can solve many of the problems inherent in most internet-based services.