DIGITAL TOOLKIT

Ministry of Culture, Community and Youth

NATIONAL ARTS COUNCIL
SINGAPORE

National Heritage Board

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INTRODUCTION:
HOW TO GO DIGITAL – DIGITAL SOLUTIONS

We have curated a list of digital solutions relevant to arts and culture organisations and practitioners through their digitalisation journey. The digital solutions correspond to **3 levels of complexity**, as well as **6 different dimensions of both the creative process and other supporting functions**.

3 Levels of Complexity

ADVANCED

This level focuses on the most complex digital tools that are less commonly implemented, but present the most **unique and immersive modes of service delivery**.

MID-LEVEL

This level consists of more complex digital tools that not only **bring organisations and practitioners online** but leverage technology to **enhance service delivery**.

BASIC

This level consists of basic ways in which arts and culture organisations and practitioners can **build an online presence** and **deliver the arts and culture to audiences in digital** rather than purely physical modes.

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INTRODUCTION:
HOW TO GO DIGITAL – DIGITAL SOLUTIONS

Digital Solutions for the 6 Different Dimensions

Creation

These solutions comprise digital technology that helps arts and culture organisations and practitioners **create and develop art, music, museum exhibitions and other works**.

- Virtual Reality (VR) Exhibition
- Augmented Reality (AR) Exhibition
- Artificial Intelligence (AI)-Aided Art
- Digital Art
- Accessibility Tools
- Wireframe Tools
- User Interface (UI) Design Tools
- User Experience (UX) Design Tools
- Scheduling Tools
- Web Publishing Platforms for Museums

Presentation

These digital tools aid in the **presentation of arts and heritage creations** to audiences, museum visitors, and other consumers.

- Archival Systems
- Online Festivals
- Virtual Museum Tours
- Virtual Jamming Tools
- Mobile Applications
- Online Streaming
- Webinars and Virtual Workshops

Stakeholder Management

This stage covers the **inbound resources** received by arts and culture organisations and practitioners. Arts and culture organisations and practitioners can **enhance their engagements and improve relationships with stakeholders** through digitalisation.

- Advanced Stakeholder Management Software
- Donor Management System
- Volunteer Management System (VMS)
- Basic Stakeholder Management Software

Data Analytics

These solutions enable arts and culture organisations and practitioners to **analyse data on audiences, website traffic, museum visitors, and consumer preferences**. Data analytics helps generate insights to better engage consumers and reach out to new audiences.

- Advanced Analytics Software
- Mid-Level Data Analytics Software
- Website Visitor Analytics

Marketing

This category comprises digital technology for **marketing and promoting arts and heritage offers** to audiences, museum visitors, and other consumers.

- Enhanced Ticketing Solutions
- Marketing Analytics Software
- Digital Marketing
- Online Art Marketplaces
- Virtual Viewing Rooms
- Unlocking New Revenue Streams
- Dynamic Pricing Solutions
- Website
- Email Marketing
- Social Media Marketing

Corporate Functions

This stage comprises **back-room functions**. Arts and culture organisations and practitioners can streamline operations with digital solutions to raise productivity.

- Enterprise Resource Planning (ERP) System
- Human Resource Management System (HRMS)/ Workforce Management System (WMS)
- Contract Management Software
- Project Management Software
- Accounting Management System
- Subscription Services

CREATION

Digital Solution [Complexity]	What It Does	Key Features
Preparation for Artistic Creation		
1. Scheduling tools [Basic]	Performing artists can streamline their scheduling process, e.g. rehearsal scheduling, using tools such as the Theater Rehearsal Planner.	• Manages who should attend the rehearsal and arrange rehearsal timings.
Creation of Art Works		
2. Digital art [Mid-level]	Digital art leverages digital technology to produce and present art. Platforms for creating these works include Adobe Photoshop and Affinity Designer.	• Computer-generated, e.g. algorithmic art. • Digital art installations that are immersive, involving features such as live video capture. • Digital painting. • Electronic art.
3. Accessibility tools [Mid-level]	Digital technology can be leveraged to make inclusion a priority. Accessibility should be a standard feature of product offerings. For example, arts and culture content can be made accessible to audiences in their own languages, and to audiences who are visually or hearing impaired. Innovations to consider include Google Translate's transcription feature. One tool for inclusivity is auto-captioning and translation. You can consider tools such as AI Media, Google's Speech-to-Text and Wordly.AI.	• Live translation of performances into different languages via audio, or subtitles that appear on-screen. • Artworks customised for the visually impaired that emphasise audio and tactile features.

CREATION

Digital Solution [Complexity]	What It Does	Key Features
Creation of Art Works		
4. Virtual Reality (VR) exhibition [Advanced]	VR, which is a simulated reality generated by computers, can enable audiences and consumers to engage with a 3D simulated arts and culture exhibitions, with the aid of devices such as goggles. Tools to consider include VR-All-Art for creating exhibitions in VR. Examples of the use of VR in the arts include Louvre's 'Mona Lisa: Beyond the Glass'.	• Can be used for educational (e.g. museum exhibits simulating past historical events, or training for artistic techniques), entertainment, training and other purposes. • Ability to create virtual prototypes of artworks. • Completely immersive. • Requires electronic devices such as gloves with sensors, or goggles with a screen. • Users can look in different directions and have the experience of actually being present in the VR setting.
5. Augmented Reality (AR) exhibition [Advanced]	With AR, real-world objects in exhibitions are enhanced by computer-generated inputs. Tools to consider include Artivive and Adobe Aero. Examples of the use of AR in the arts include AR.T Trail, which was part of Singapore Art Week 2020.	• Enhances users' real-world experience in an exhibition across different sensory modalities. • Exhibits in museums could come to life as visitors view them through their camera phones. • Deepens audience engagement with art works, e.g. giving audiences the ability to colour or sketch. • Facilitates navigation, such as when navigational guides appear on your phone screen in museums or festivals.

CREATION

Digital Solution [Complexity]	What It Does	Key Features
Creation of Art Works		
6. Artificial Intelligence (AI)-aided art [Advanced]	With AI, human creativity in artistic creation is complemented and enhanced through the intelligence of machines. AI tools to consider include Runway ML, AI Painter (for visual arts) and Magenta Studio (for music).	• AI-generated art that complements human creativity. • AI choreography to streamline and enhance performing arts productions. • Music composed by AI to streamline and add further diversity to compositions and artistic productions. • Literary arts and text created by AI to add to the creative process. • Generative design: AI drives designs based on requirements specified by humans. • Robots participating in the appreciation of art as fellow museum visitors or art critics. • Consumers are recommended tailored arts and culture content with the aid of algorithms that learn consumers' preferences and habits.

CREATION

Digital Solution [Complexity]	What It Does	Key Features
Development of Websites and Mobile Applications		
7. Web publishing platforms for museums [Basic]	Museums can use web publishing platforms to publish collections and exhibitions online. Tools to consider include Omeka Classic and CollectiveAccess.	• Simple process for launching exhibitions online, without coding knowledge. • Ability to catalogue museum and archival collections. • Ability to add further functions through plugins, e.g. allowing users to tag favourites
8. Wireframe tools [Mid-level]	UX designers create wireframes to lay out the structure, user flow, intended behaviours and other elements of a webpage or app. Wireframing provides the visual aids for helping the team decide on the location of elements on the final product, before developers begin building the product. Mockplus, Wireframe.cc and Figma are wireframing software with free versions.	• Ability to share and test designs collaboratively using icons, UIs, and templates made available to aid the design process. • Wireframes can be created for different platforms including mobile and webpages.
9. User Interface (UI) design tools [Mid-level]	UI designers create the appearance and layout of the product and are concerned with the interactive feel of the interface. UI design tools such as Sketch, InVision and Proto.io aid designers in prototyping these visual elements of the product.	• Enables designing of prototypes. • Enables collaboration on designs.
10. User Experience (UX) design tools [Mid-level]	UX designers aim to meet the user's expectations of a product, and solve problems faced by users. Tools for UX design include VisualSitemaps and Treejack.	• Enables the creation of visual sitemaps and user flows • Enables designers to create and test information architecture.

PRESENTATION

Digital Solution [Complexity]	What It Does	Key Features
Online Performances / Presenting to Online Audiences		
1. Online streaming [Basic]	Online streaming enables audiences to watch or listen to performances on internet-connected devices. Begin streaming on platforms like SISTIC Live, Facebook Live, Youtube Live, Vimeo, Open Broadcaster Software (OBS) and others.	• Live or pre-recorded. • Makes performances, music festivals, museum tours and other content accessible to a wide range of consumers by putting the arts and culture at their fingertips. • Can be integrated with social media: as audiences are browsing their social media feeds, they would be informed of the newest uploads and live streams of their favourite artists. • Requires recording equipment, e.g. camera, lighting, microphones. • Requires basic knowledge of video editing. • Requires comfort in front of a camera and awareness of camera angles.
2. Webinars and virtual workshops [Basic]	Webinars and virtual workshops are conducted on platforms such as Zoho, Google Meet, and BlueJeans Virtual Events, and enable artists, arts educators and other practitioners to engage audiences in online performances, interactive classes, and other activities.	• Real-time interactions with audiences, with video and audio. • Live chats. • Reactions from participants e.g. raising their hands, Q&A, and polls.

PRESENTATION

Digital Solution [Complexity]	What It Does	Key Features
Online Performances / Presenting to Online Audiences		
3. Online festivals [Mid-level]	Online festivals give audiences the opportunity to appreciate performances virtually. Upon purchasing tickets for the festival, audiences can access various shows across different days of the festival. SMU Arts Festival 2020 and StoryFest Online 2020 were online and made performances accessible digitally even after the festival. For an example of how arts content is displayed online for festivals, view the Singapore Writers Festival website.	• Collection of virtual performances. • Festivals could be delivered in a hybrid format, where certain segments allow in-person attendance.
4. Virtual museum tours [Mid-level]	Virtual museum tours allow museum visitors to view exhibits online, in a high resolution and realistic format. Google VR's Virtual Tour Creator and artsteps are tools for creating virtual museum tours.	• 360-degree, up-close views of artefacts and cultural landmarks. • Ability for visitors to virtually "walk" through museums and click on items to access further information.
5. Virtual jamming tools [Mid-level]	Tools for virtual jamming allow musicians to perform together with little latency. Examples to consider include Soundjack and Jammr.	• Enables musicians to interact in real-time and produce music together without travelling. • Public and private jam sessions.

PRESENTATION

Digital Solution [Complexity]	What it does	Key Features
Interacting with Consumers through Digital Applications		
6. Mobile applications [Mid-level]	A mobile application is a digital tool on audiences' or visitors' mobile devices that facilitates interactivity with the arts and culture organisations, performances, exhibits, venues, and more. Consider free mobile app builders like Appy Pie.	• Ability to book tickets for performances and exhibitions. • Interactive elements e.g. scanning Quick Response (QR) codes to interact with exhibits.
Archival Solutions		
7. Archival systems [Advanced]	Archival systems store a repository of arts and culture content, allowing arts and culture organisations to share this content with future audiences, museum visitors and other institutions. Platforms to consider include Axiell and OpenText.	• Tools include collection management, digital media management, archive management and others.

MARKETING

Digital Solution [Complexity]	What It Does	Key Features
Digital Marketing Solutions		
1. Website [Basic]	A website is a way to publicise information about your work or organisation. News and updates, schedules of performances and exhibitions, and other information can be made available on this online platform. Free website builders are available for you to start building an online presence. You can also consider content management systems like Drupal.	• Several web pages containing background of the organisation, schedule of events, photographs of the team and recent activities. • Ability to book tickets for performances and exhibitions.
2. Email marketing [Basic]	Using email marketing, arts and culture organisations and practitioners can promote their content and nurture their fan base through newsletters, polls, competitions, and other email updates. Some email marketing tools include Moosend, MailChimp and Sendinblue.	• Email content is sent to a mailing list.
3. Social media marketing [Basic]	Using social media platforms such as Facebook, Twitter and Instagram, arts and culture organisations and practitioners engage their audiences with text posts, photographs, videos and other media. Digital tools are available to streamline social media marketing. For example, these tools could help schedule several social media posts in advance. Examples of tools include Biteable (for creating informative short videos to share on social media), Buffer (for scheduling posts) and Buzzsumo (for planning and analysing social media content).	• Arts and culture organisations and practitioners maintain social media accounts and grow their base of followers on social media. • Followers interact with posts through replying, liking and sharing. • Online streaming content can be posted on social media. • Use of hashtags.

MARKETING

Digital Solution [Complexity]	What It Does	Key Features
Digital Marketing Solutions		
4. Digital marketing [Mid-level]	Digital marketing uses the Internet, mobile devices and other digital channels to reach consumers and audiences. Arts and culture organisations and practitioners can perform A/B testing to determine which digital marketing solution works best. Canva, a design tool, offers its premium features for free to nonprofits. Digital marketing tools include Twitter's engagement campaigns and Moz (for Search Engine Optimisation).	• Website marketing. • Pay-Per-Click (PPC) Advertising, such as Google Ads. • Content Marketing. • Email Marketing. • Social Media Marketing. • Affiliate Marketing. • Video Marketing.
Solutions for Marketing of Art Online		
5. Online art marketplaces [Mid-level]	Online art marketplaces are a way for galleries to reach a global consumer base e.g. Artsy, Artwork Archive. An alternative to a marketplace is an online catalogue. There is potential to sell art works on marketplaces that are not conventionally art-centric. These platforms include Shopee and Etsy.	• Ability to buy and sell artworks. • Ability to create online portfolios. • Online gallery could be embedded in an artist's personal website.
6. Virtual viewing rooms [Mid-level]	Virtual viewing rooms enable artists to organise viewings of art tailored to particular buyers, e.g. Private Rooms.	• Ability to curate a collection of artworks online. • Ability to invite collaborators to view the artworks online.

MARKETING

Digital Solution [Complexity]	What It Does	Key Features
Digital Solutions for Monetisation and Optimisation of Marketing Efforts		
7. Unlocking new revenue streams [Mid-level]	Tools such as Vimeo OTT enable artists to maintain a subscription service while monitoring subscriber growth. Facebook Stars, which viewers can purchase and send to artists during online streaming, can be used to monetise your online streams. Google AdSense enables you to earn ad revenue from your website. Amazon Associates Program allows creators to share products and programs with audiences, and earn money from qualifying purchases and customer actions.	• Ability to track subscriber growth using analytics. • Avenues for monetisation include subscriptions, advertising and others.
8. Dynamic pricing solutions [Mid-level]	These solutions define, manage and analyse the best pricing strategies for products and services, to drive sales growth and increase profit margins. Tools include Prisync and Competera.	• Marketplace data tracking. • Category/brand performance analytics. • Pricing automation. • Price optimisation.

MARKETING

Digital Solution [Complexity]	What It Does	Key Features
Digital Solutions for Monetisation and Optimisation of Marketing Efforts		
9. Enhanced ticketing solutions [Advanced]	Consider leveraging digital technology to automate and optimise ticketing. For example, Nliven helps to instantly assign prices and attribute seats using a visual map, and offers smart rules for optimising ticket pricing. Nliven's algorithm can plan seating arrangements to facilitate social distancing.	• Ability to easily set up events using templates and inventory management. • Allows for tracking of sales with analytics.
10. Marketing analytics software [Advanced]	Arts groups and museums can use marketing analytics software to streamline marketing efforts as well as manage and evaluate their marketing performance. Tools to consider include HubSpot Marketing Hub and Semrush.	• Ability to use revenue attribution reporting to track return on investment (ROI). • Ability to integrate with other tools e.g. customer relationship management (CRM) software to provide lead intelligence to sales team. • Ability to manage ads for social media platforms and track conversion of ads to customers.

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DATA ANALYTICS

Digital Solution [Complexity]	What It Does	Key Features
1. Website visitor analytics [Basic]	Website visitor analytics solutions are used to analyse website traffic, users, real-time visitor count, and other aspects of customer behaviour. Tools to consider include Google Analytics, Matomo and Statcounter.	• Web traffic analytics. • Ability to measure and analyse user behaviour.
2. Mid-level data analytics software [Mid-level]	Data analytics is the analysis of raw data to gain insights. Data analytics tools for the arts groups and museums perform functions such as predicting visitations and revenue as well as optimising growth through insights from data. Tools to consider include Dexibit, Zoho Analytics, Microsoft Power BI and Qlik.	• Ability to analyse data about audience habits to customise the delivery of arts and culture content and improve audience engagement. • Ability to analyse the value generated by arts and culture offerings and thus refine their value propositions and business case. • Ability to study the impact of artworks and performances.
3. Advanced analytics software [Advanced]	Arts groups and museums can use advanced analytics software to prepare, visualise and analyse data. Tools to consider include Tableau and SAS.	• Ability to work with data in areas such as sales, finance, marketing and human resources. • Data can be accessed on different devices e.g. desktop and mobile devices. • Data can be analysed in a collaborative way and using interactive dashboards. • Ability to generate findings through advanced analytics, calculations and statistics.

CORPORATE FUNCTIONS

Digital Solution [Complexity]	What It Does	Key Features
1. Subscription services [Basic]	Subscription services for functions such as word processing, presentations, email and spreadsheets. Microsoft offers discounted solutions for non-profit organisations. For more information, view this link.	• Recurring price to access the software. • Word processing, spreadsheets, presentations and other features.
2. Accounting management system [Mid-level]	An accounting management system helps arts and culture organisations and practitioners collect, store and process financial information and produce informational reports for management decisions. It helps organisations and practitioners automate the manual accounting tasks and provide a consolidated overview of their financial activities. Example: Quickbooks.	• E-Invoicing processing. • Bank reconciliation. • Tracks income and expenses. • Manages assets and liabilities. • Manages General Ledger. • Manages Balance Sheet. • Manages cash flow statements.
3. Project management software [Mid-level]	Project management software enables arts and culture organisations and practitioners to plan, monitor and report on their projects. These platforms could be especially useful for arts and culture organisations practitioners planning large scale projects such as festivals, exhibitions or art shows. Examples: ClickUp, Trello and Jira.	• Online and collaborative. • Ability to assign parts of the project to different team members.

CORPORATE FUNCTIONS

Digital Solution [Complexity]	What It Does	Key Features
4. Contract management software	A contract management software can help arts and culture organisations and practitioners mitigate risk and ensure compliance by analysing contracts, identifying problem clauses, producing risk assessment reports, and tracking compliance. Examples: PandaDoc and ContractWorks.	• Analyses contracts and identifies any problem clauses. • Produces risk assessment reports. • Monitors and tracks compliance of contractual terms.
5. Human Resource Management System (HRMS) / Workforce Management System (WMS) [Mid-level]	HRMS/WMS integrates various aspects of manpower and resource planning to streamline processes for a comprehensive overview of the profile, performance, job scope and schedule of all employees in arts and culture organisations. Examples: Homebase and WebHR.	• Processes payroll. • Leave administration. • Claims administration. • Workforce scheduling and management. • Appraisal evaluation.
6. Enterprise Resource Planning (ERP) System [Advanced]	An ERP system integrates and streamlines business processes from HRMS, Accounting Management, Inventory Management, Customer Relationship Management systems and beyond to facilitate seamless information flow within the organisation. With data consolidated on a platform, real-time information from various business functions is more accessible, thereby facilitating more informed decision making. Examples: Tally and Microsoft Dynamics TP.	• Streamlines processes such as artefacts management from cataloguing heritage artefacts to tracking movement of artefacts, and monitoring storage of artefacts.

STAKEHOLDER MANAGEMENT

Digital Solution [Complexity]	What It Does	Key Features
1. Basic stakeholder management software [Basic]	Arts groups and museums can use basic stakeholder management software to map and visualise stakeholders based on their influence, interests and impact, assign tasks to stakeholders, and other functions. Example: Simply Stakeholders.	• Easy to set up, e.g. importing a spreadsheet comprising stakeholders. • Ability to sync stakeholder information with your email platform. • Integration with other digital tools such as email marketing software, email, Office 365 and social media.
2. Donor Management System [Mid-level]	A Donor Management System is tailored to donor-specific functions such as maintaining donor records and engaging donors through various channels. It can also track fund-raising campaigns. Examples: Bloomerang and DonorPerfect.	• Manages various types of donations, gifts and sponsorships. • Generates tax deductible receipts. • Matching donors to preferred benefits based on their preferences.
3. Volunteer Management System (VMS) [Mid-level]	VMS is a useful application for arts and culture organisations to coordinate volunteer resources efficiently. Examples: iVolunteer.com and RosterVolunteers.	• Facilitates volunteer recruitment from application to onboarding. • Volunteer scheduling for rostering and allocation of volunteer tasks. • Manages volunteer retention and engagement.
4. Advanced stakeholder management software [Advanced]	Arts groups and museums can use advanced stakeholder management software to perform other functions in addition to managing stakeholder management activities. Example: Borealis.	• Additional, non-basic stakeholder management functions including grievance management, meeting employment and business development targets, and demonstrating social and economic impact of activities etc.