Request for Application #2022-044

2022 Global Call for Candidate Global Goods: Software

The call is open to innovators, entrepreneurs, for-profit and non-profit companies, research groups, university departments and spin-offs, and small and medium-sized enterprises interested in improving global healthcare with open-source digital tools.

Introduction

Are you a digital innovator with a current or candidate global good? In response to community feedback, Digital Square at PATH is refreshing its global good list, including the digital tools that will be featured in its Global Goods Guidebook (version 4 to be published in 2023). We are looking for innovative companies interested in working with us to increase the availability, adaptability, and maturity of high-quality digital health tools to address country-driven health needs. Successful applicants to this call will join the global goods community, receive funding to attend the 2023 Global Good Innovators Meeting, and a fixed award of up to \$25,000 to support the publication of data on the impact and/or scale of the candidate global good.

At least half of the world's population cannot obtain essential health services. Digital interventions can play a key role in extending the reach and quality of health services, improving health access and outcomes. Digital Square is addressing this need by advancing digitally enabled health services around the world to help close the health equity gap.

Since 2016, Digital Square has focused on reorienting the global digital health community to better match digital health approaches to country needs—advancing interoperable digital health tools that are adaptable to different countries and contexts to help close the health equity gap.

This call seeks to support the discoverability, accessibility, and promotion of global goods, which are crucial for saving lives and improving health around the world. At Digital Square, <u>global goods</u> are digital health tools that are free, open source, impactful, scalable, and adaptable to different countries and contexts. These free and open-source digital health tools look to reduce fragmentation and duplication to accelerate scale and health impact.

Notice G

Notice G aims to identify digital health technologies worldwide that qualify as global goods. Its objective is to identify and promote high-quality software, content, and service tools to address country-driven health needs and ultimately contribute to inclusive and equitable health outcomes for all. Additionally, this call seeks to identify solutions that have the potential to be scaled and have a significant impact through grant support, technical assistance, and connection with Digital Square's global goods community network.

Notice G will be split into three application rounds which will run progressively over the next few months to extensively cover the different types of global goods.

Table 1: Notice G application rounds and related timeline.

Notice application rounds	Timeline
Round 1	
Notice G0: Digital health tools as software applications that are free and open source and are used to manage, analyze, or transmit health-related data, with proven utility in several settings.	 Launch date: August 29, 2022. Information session: August 31, 2022. Q&A submissions due: September 17, 2022. Q&A response published: September 24, 2022. Application deadline: September 30, 2022.
Round 2	
Notice G1: Digital health interventions for service delivery as a software tool used to manage, transmit, or analyze health-related data that can be freely accessed as a software service and adheres to open data principles.	Launch date: October/November 2022.
Round 3	
Notice G2: Digital health content as a knowledge resource, toolkit, or data standard available under an open license and is used to improve or analyze health data management and exchange processes.	Launch date: November/December 2022

NOTE/ATTENTION: We encourage all existing global goods, as well as new tools, to apply to these notices to ensure that tools are re-evaluated for representation in the upcoming <u>Global Goods Guidebook</u>.

Digital Square global goods

Digital Square global goods are health-focused tools that are impactful, scalable, and adaptable to different countries and contexts. In addition, they have an active focus on becoming more interoperable, deployable, and better serving of low-middle-income country (LMIC) strategies. The following are the attributes of global goods:

- Software available under an open-source license, services with no barrier to access, and content readily available under an open content license.
- Are aligned to the Digital Public Goods (DPG) Standard and are either nominated or registered as DPGs (only relevant to software and content global goods).
- Supported by an anchor organization and/or strong community.
- Having clear governance structures.
- Demonstrated effectiveness of the tool.
- Deployed at scale and used across multiple countries.
- Designed to be interoperable-to connect and communicate with other digital health systems.
- Demonstrated sustainability continuum for the tool.

Notice G0: Software Global Goods

This call focuses on the identification of **software global goods for health** which are currently in use on a global scale.

Software

A mature digital health **software** global good is software that is free and open source, is supported by a strong community, has a clear governance structure, is funded by multiple sources, has been deployed at a significant scale, is used across multiple countries, has demonstrated effectiveness, is designed to be interoperable, and is an emergent standard application.

Summary definition of a software global good:

- Licensed as free and open-source software.
- Aligned to the DPG Standard and are nominated/registered DPGs.
- Supported by a strong community and has a clear governance structure.
- Funded by multiple sources.
- Deployed at significant scale.
- Used across multiple countries with demonstrated effectiveness.
- Designed to be interoperable.

Examples of types of tools may include, but are not limited to:

- Client-oriented technologies, such as those that provide compliance reminders for appointments and treatment, transmit health-event alerts, and/or transmit payments or vouchers, etc.
- Provider-oriented technologies, such as those that support the identification and registration of clients, clients' health records, communications and decision-making for healthcare providers, referrals, planning and scheduling, training, and the management of laboratory tests and results, diagnostics, and imaging, and "virtual health," including remote monitoring and telemedicine.
- Manager-oriented technologies, such as those that support the management of human resources, supply-chains, notifications of public health events, civil registries and vital statistics, public- and private-sector health funds, and facilities.
- Data-services-oriented technologies, such as those that enable the collection, management, analytics, coding, exchange, interoperability, and use of data; and location-mapping.

For additional examples, please review the current Global Goods Guidebook.

Who can apply?

Digital Square accepts submissions from various applicators, independently or in partnership with others, including research institutes and institutions of higher education, non-governmental organizations, and private, for-profit companies. Digital Square also accepts applications for funding from innovators, digital entrepreneurs, and researchers of all nationalities based in all geographies.

Target geographies

The initiative encourages applications from organizations working to address health equity challenges in LMICs as priority settings. Notice G is a global call inviting digital solutions currently in use from all areas of the world. Technologies with proven use and impact in LMICs as priority settings are preferred.

Benefits of applying

Successful candidates and awards: Digital Square will evaluate all applicants in terms of their inclusion as a global good. Currently, Digital Square has obtained funding to support at least 20 global goods innovators to attend the Digital Square Global Good Innovators Meeting (projected for March 2023), which will be hosted in Africa. In addition, select awardees will receive up to US\$25,000 in funding to support the development of impact and scale documentation to showcase the value and reach of their global good.

Recognition as a global good: Successful applications will be recognized as a <u>Digital Square approved</u> <u>global good</u> and will gain an approved status, which can be used to garner donor support. They will also form part of the broader Digital Square global goods community and have access to Digital Square's basket of services, plus further benefits associated with being an approved global good.

The global goods community: All successful global goods will be invited to attend the 2023 Global Good Innovators Meeting, hosted on the African continent, which serves as an opportunity to connect, learn, and gain insights from the broader global community. Select successful applicants will receive sponsorship to attend the event. This event offers unique opportunities of engaging directly with a range of donors and endorsers of the global goods guidebook and concept at large, as well as key ministries leveraging global goods, and countries interested in global goods.

Global visibility: All successfully classified global goods will be featured in the next version of the Global Goods Guidebook. This key reference catalogue forms part of the recommended guidance in selecting digital health solutions for country adoption by donors. It is endorsed by the Bill & Melinda Gates Foundation, Centers for Disease Control and Prevention (CDC), Digital Impact Alliance (DIAL), Digital Public Goods Alliance (DPGA), German Federal Ministry for Economic Cooperation and Development (BMZ), German Agency for International Cooperation (GIZ), US Agency for International Development (USAID), and United Nations Children's Fund (UNICEF).

Cloud computing credits: All approved awardees will be eligible for one year of cloud hosting credits from Amazon Web Services (AWS) as part of the <u>AWS Health Equity Initiative</u>. AWS's support is part of a \$40 million global program, launched in late 2021, to enhance health and reduce inequities in healthcare. Approved applicants will work directly with AWS to facilitate execution of the credits.

Eligibility criteria

Proposals are required to meet a set of minimum eligibility criteria to be considered for evaluation. The eligibility criteria are as follows:

- The proposed software will need to meet the definition of a global good and be licensed under an open-source license.
- The proposed software must be a nominated or registered DPG with the <u>DPGA</u>.
- Proposed software solutions should focus on <u>Sustainable Development Goal 3: Health and well-being</u>. Global goods are mapped to their primary function within the health space and the focus areas of intervention they seek to address. To provide the mappings, Digital Square global goods leverage the categories and system classifications of the <u>World Health Organization's "Classification of digital health interventions v1.0"</u>.
- The solution will need to provide evidence of scale and of the tool being open source (meeting the definition of a software global good).
- Must be a mature solution that is demonstrably established in the market and is aiming at the expansion to new markets.

Evaluation criteria

The applications will be evaluated according to the following criteria based on the data entered into the application forms:

Criteria 1: The ability to meet the definition of a global good and of being a DPG.

Definition of a software global good:

- Licensed as free and open-source software with publicly available source code.
- Supported by a strong community with a clear governance structure.
- Funded by multiple sources.
- Deployed at significant scale.
- Used across multiple countries and with demonstrated effectiveness.
- Designed to be interoperable.

Criteria 2: The maturity of the tool as per the Global Good Maturity Model.

The <u>Peer Review Committee (PRC)</u> will review applications in accordance with the aforementioned criteria and in line with the prioritization framework (outlined below in Table 1). The PRC evaluates applications as green-, amber-, or red-lit. Green-lit applications are recommended for clear inclusion as a global good; amber-lit applications are recommended for further exploration as global goods; red-lit applications do not fully meet the selection standards/criteria.

Core indicator	Sub-indicator	Sub-indicator
	Country utilization and country strategy	Does the tool show strong adoption and use at a country level? Does it form part of the broader thinking of country plans?
Global utility	Digital health interventions	Is the tool clearly mapped and identified by the World Health Organization classifications?
	Source code accessibility and DPG status	Is the tool open source? Is it nominated/registered as a DPG?
	Global scalability	Does the tool showcase its ability to support health impact at scale by providing appropriate references and links to deployments and projects?

Table 2: Prioritization and evaluation framework.

Community support	Community governance and developer, contributor, and implementor community engagement	Does the community have a governance structure and broader community engagement that is clear and facilitating to ongoing support and engagement?
	Software roadmap and user documentation	Are there clear artefacts that support community members in engaging with the tool in terms of future planning, use and adoption?
	Multi-lingual support	Does the tool support multi-lingual use and at what level?
	Technical documentation	Is there a sufficient technical documentation for local and new teams to engage with the tool?
Software maturity	Software productization	Is the tool mature in the sense of ability to implement and be used as part of an enterprise/national/large scale deployment? Does it portray a strong sense that it is product focused rather than a code utility?
	Interoperability and data accessibility	Is the tool driving towards interoperability and data exchange using global standards and patterns?
	Security and privacy	Is the tool planning for and actively engaging in the conversations around privacy and security?
	Scalability	Does the technology showcase its ability to scale through implementations?
Impact	Demonstrated need/Meet use case	How well does the software represented in the application appropriately address a significant country need, identified use case or gap in the technology ecosystem as evidence by use of, approval of, and/or interest in the technology/approach?
	Applicability	How well does the application support a reusable digital health asset that could potentially be

		deployed in a variety of contexts over time?
	Adoptability	How well does the tool provide artefacts, communities and means to support adoptability? Is it adopted in multiple implementations?
	Potential for health impact	What level of potential impact does the software have on health systems and ultimately health outcomes?
Sustainability and global diversity	Sustainability	How suitable and sustainable is the home, model or means to ensure ongoing support and confidence in the tool's continued existence over time?
	Diverse investment/funding stream	How diverse is the funding to support the ongoing support for the tool?
	Local capacity and diversity of organizations	How well is the tool represented by local support teams or providers in country?

How to apply

Applications should be submitted using the <u>application portal</u> for participation in the Global Call for Candidate Global Goods: Software. All applications must be filled out in English. It is important that you answer all questions accurately and clearly. When completing the application form, please note that the space available to respond to some questions is limited and clearly indicated.

Application process

<u>The submission portal</u> will be open for applications at 8:59 a.m. (CEST) on August 29, 2022. The process for submission is as follows:

- Navigate to the submission portal and click "Sign Up". This is a new portal, and all previous and new applicants are required to create a new account.
- Enter your email and create a password. You will be granted immediate access to the portal.
- Click "Create a Profile to Get Started". This step must be completed before you can proceed with the application.
- Click the "Get Started" box (marked with a "+").
- You can now access and edit both of two required and one optional application form(s). Completion or noncompletion of the optional AWS credits form will not impact submission consideration or evaluation.
- All forms can be saved in draft prior to submission.
- Once both required forms are completed, the "Submit" button will be green and clickable. Once submitted, forms cannot be edited.

A webinar hosted by Digital Square on August 31, 2022, at 3:00 p.m. (CEST) will delineate this process and answer questions specific to the portal and application process.

All applicants are expected to complete the online application forms:

- Notice G0: Software GG.
- GG Maturity Model.

These applications will solicit information in accordance with the:

- Annex A: Notice G0: Software Framework.
- Annex B: Global Goods Maturity Model.

Disclaimer

By submitting an application, you agree to having a summary of your organization, the technology and associated information, and your contact details published on a list of Digital Square global goods and digital health solution providers. Digital Square may leverage this list to share news, updates, and funding opportunities.

By submitting your application to Digital Square, applicants acknowledge and agrees that the submitted data is being shared as part of the open application process and may be included in any relevant publications. The applicant acknowledges and agrees that all sensitive (budgets, company registration and financial) data provided will not be made available to third parties without prior authorization of the applicant, except for the application review by the PRC, Investment Review Committee and the Digital Square Board.

Application deadlines

The applications must be submitted through the internet portal available at https://webportalapp.com/sp/dsg_notice_g0_software by 11:59 p.m. (CEST) September 30, 2022.

Evaluation and review committees

Compliant applications are reviewed by the PRC, a group of individuals from a variety of sectors, who provide feedback on applications to guide funding decisions of the Digital Square Board. The current PRC membership can be found on the Digital Square Wiki. The IRC will review all evaluations from the PRC and create a funding recommendation package to be approved by the Digital Square board.

Project period

Digital Square anticipates that subawards will begin upon signature and end by September 2023. In addition to project-specific deliverables based on individual scopes of work, Digital Square may require applicants to provide quarterly narrative and financial reports, at minimum, to support the applicants work.

Questions

Submission of clarification and fact-finding	September 17, 2022, by 5:00 p.m. (CEST)
questions to msoc@path.org	
All fact-finding questions and answers posted to	September 24, 2022
Digital Square's website	

Applicants who experience issues or technical difficulties with submissions prior to the deadline should contact Maria Soc at <u>msoc@path.org</u> for assistance.

Appendix A: G0 Application Questions

Software / Tool			
	Please provide a link to the DPC registration /		
	Please provide a link to the DPG registration / Nomination		
Classification	Which of the WHO System classifications best maps to the tool		
		Primary	Select 1
		Secondary	Select up to 5
	Is there a dedicated website for the technology?		
		Please provide link	
	Is there a public facing tool roadmap and documentation?		
		Please provide link	
	Is there a public (up to date) issue list and ticket list for the tool?		
Product Information & License		Please provide link	
	Please provide links to the source code		
	What license is the tool published under (OSI)?		
	What is the latest/current version of the tool?		
	When was the first version of the tool released (year)		
	Are there release notes with releases/versions?		
	Is there dedicated installation documentation?		
Installation	Does the tool make use of packaging and deployr (Docker / Kubernetes / etc.?)	nent tools to support	installation?
	Is there technical and developer documentation?		
		Link to architectural	
Documentation / Technical		documentation link to developer	
Specifications		documentation	
	Is there dedicated user guide documentation? If yes, provide link		
	Is there a troubleshooting - support (technical and user etc.) documentation? If Y, provide link		
Documentation - Functional	Please describe the primary functionality and health content of the solution		
Specifications + M&E	Please describe the primary users the solution		
Documentation - Software Documentation	Are there user requirements and or a functional specification documentation for the solution? If Y, provide link		
	Are there dedicated policies associated to the tool/project?		
Policies and Privacy		Terms and conditions of use?	
r choice and r mady		User agreement?	
		Tool Privacy Policy?	

		taken steps to anticipate, prevent and do no harm? Do no harm policy?	
	Does this project collect or store personally identifiable information (PII) data?	policy?	
	Does this project collect or use non-personally identifiable information (PII) data/content?		
	Does the technology incorporate health standards within the software?		
Standards and Best Practices		Please select from list	CIEL ICD-9, ICD-10, ICD-11 LOINC GS1 SNOMED Other (please list)
	Does the tool adhere and or incorporate any particular interoperability standards for data exchange?		
		Please select from list	HL7 v2,v3 HL7 FHIR ADX Other (Please list)
	Does the tool adhere to any IHE workflows? If Y, please list		
	Has the tool undergone any external testing and or certification?		
Testing		IHE conformance testing?	
		other	
	Has the tool undergone any performance testing b state by whom and when	y an external party?	lf yes, please
	Has the tool undergone any security testing by a c state by whom and when	ualified external par	ty? If yes, please
	Is the software/tool available in multiple languages?		
		if so, please list	
Recommended Additions: Multilingual Support	Does the software/tool have the ability to add additional languages (internationalization)?		
	Are the technical and user documents available in multiple languages?		
		if so, please list	
Global Utility			
	Please describe the reach and span of the use and adoption of your technology		
Countries		What are the number of known	

	implementations of	
	your tool?	
		(Use a standard
	In which countries	list of countries
	is the tool being	(select multiple)
		- maybe group
		by continent)
Please link to all appropriate Digital Health Atlas		
entries for the use of this tool		
Please proved links for up to 5 of the top		
articles/white papers/writeups that describe the		
digital health strategy, roadmap, list of approved technologies?		
What country was this project developed		
in?: (Select from list)		
1		
Is the governance structure documented?		
1	1	1
of this or describe how this is managed		
Please describe		
Link(s)		
× 7		
	Please proved links for up to 5 of the top articles/white papers/writeups that describe the impact of this tool Which countries have included the tool in their digital health strategy, roadmap, list of approved technologies? What country was this project developed in?: (Select from list)	your tool? In which countries is the tool being used? Being deployed Please link to all appropriate Digital Health Atlas entries for the use of this tool Please proved links for up to 5 of the top articles/white papers/writeups that describe the impact of this tool Which countries have included the tool in their digital health strategy, roadmap, list of approved technologies? What country was this project developed in?: (Select from list) Image: Strategies of the governance structure documented? Image: Strategies of the governance structure documented? <tr< td=""></tr<>

	What where the dates (MM/YYYY) of the last 3		
	events		
Are there dedicated policies and			
guides for the community?			
	Describe (please link where possible)		
What is the size, scale and diversity of the community			
	Please describe the community "make-up"		
	Please list the countries from which your community is made up / has contributions from		
	What is the approximate size of the community?		
Sustainability		1	
Is the solution anchored in a host			
organization/consortium/broader community?			
	Describe (please link where possible)		
Please list the country(ies) where the			
host/anchor/consortium is based			
How is the solution supported / sustained financially? (e.g.,			
grant funded, implementation funding, SaaS, core funding, etc.)			
Who are the key funders/investors of the work			
over the past 5 years?			
Do you have a cost structure for implementation or a Total Cost of Ownership model?			

Appendix B: Global Good Maturity Model

Core Indicator	Sub-indicator	Global Good Maturity Model for digital health software tools. Version 1.4			
		Low	Medium	High	Notes
	Country Utilization	Three or fewer countries or states actively use the tool as part of their health information system	At least four countries or states actively use the tool as part of their health information system with at least 20% of total nation-wide or state-wide target users routinely using product/service as intended	At least ten countries or states actively use the tool as part of their health information system with at least 30% of total nation- wide or state-wide target users routinely using product/service as intended	
	Country Strategy	Three or fewer countries or states have included the tool as part of their eHealth strategy or framework	At least four countries or states have included the tool as part of their eHealth strategy or framework	At least ten countries or states have included the tool as part of their eHealth strategy or framework	
lity	Digital Health Interventions	The tool does not meet digital functional requirements (as defined by WHO's Classification of Digital Health Interventions) without significant customization or configuration	The tool partially meets digital functional requirements (as defined by WHO's Classification of Digital Health Interventions) without significant customization or configuration	The tool fully meets digital functional requirements (as defined by WHO's Classification of Digital Health Interventions) without significant customization or configuration	
Global Utility	Source Code Accessibility	Source code not publicly available or not released under an open-source license	Source code exists on a publicly accessible repository and licensed under an Open Source Initiative approved license.	Source code exists on a publicly accessible repository and licensed under an Open Source Initiative approved license. Software is structured to allow local customizations and new modules and functionality without requiring forking of main code	
	Funding and Revenue	At most two revenue streams exists. Revenue streams are largely dependent on time-bound project implementations	Multiple revenue streams/funders exist across project implementations	Multiple revenue streams and funding mechanisms exist, including at least one that provides for multi-year support of core software development, documentation, and other key artifacts	A revenue stream indicates a source of funding to support the development of a global good. Such revenue streams could come from donor contributions, from one of the varieties of business models used by open- source software tools to fund their continued development, or from in-kind contribution from an organization

	Developer, Contributor and Implementor Community Engagement	Less than 10% of estimated total number of developers, contributors, and implementers are on a communication platform	Up to 20% of estimated total number of developers, contributors, or implementers, including some country representation, are engaged on a communication platform	At least 30% of estimated total number of developers, contributors, and implementers are engaged on a communication platform. Community leadership includes representation from countries where the tool is deployed	
t	Community Governance	There is no community governance structure in place to direct continued development of the digital health tool	Some informal processes for community management exist to direct continued development of the digital health tool	Formal community structures (e.g., leadership, technical advisory group, community representatives) exist and are practiced with documented roles and responsibilities in a transparent fashion and are used to direct continued development of the digital health tool	
Community Support	Software Roadmap	No software roadmap exists or there is no publicly accessible and routinely maintained platform for new feature requests	There is a publicly accessible and routinely maintained platform for new feature requests. A software roadmap exists describing currently planned and resourced development activities	New features and functionality are documented as part of a software roadmap as part of a release cycle. There are forums for community members to discuss new feature requests. A clear prioritization process exists and is utilized for the development of new features and functionality as part of a product backlog	
O	User Documentation	No user documentation exists	Some user documentation exists (training manual, demo videos) but only addresses a limited subset of common functionality	A full suite of user documentation exists including training manuals, online courses, tutorials, and implementation guides addressing most of the common functionality. Documentation has been released under a Creative Commons license	
	Multi-Lingual Support	Limited or no support in the software for multiple languages. Multi-lingual documentation / user resources are practically non-existent	Software has been internationalized to support multiple languages (though may not have been translated) for primary portions of the user interface. Some user documentation exists in more than one language	Software has been translated into multiple languages and fully supports internationalization requirements. There is an easy tool for new translations to be added. Significant parts of user and implementer documentation has been translated into at least one other language.	

	Technical Documentation	No substantial documentation of the software exists	Some technical documentation exists of the source code, use cases, and functional requirements	Source code is documented to the point that new adopters can customize and add new functionality without relying on significant help from one of the core developers. Online courses or tutorials are available to address common development and deployment tasks. Core business workflows and functional requirements are fully documented using use cases, user stories, or other equivalent methodology
urity	Software Productization	No documentation available for deployment and configuration	Full documentation available for deployment and configuration. A new implementation does not require the involvement of the core development team	Software has been packaged for one or more common operating systems or platforms. Software upgrades can largely be achieved without manual intervention. Unit or integration testing is part of the release process
Software Maturity	Interoperability and Data Accessibility	Extracting or importing data into the system usually requires looking at source code and/or directly accessing database	Some APIs are available for accessing and managing data. There are user-facing interfaces to export core data and metadata in the system (e.g., in CSV format) for further analysis and data transfer purposes	A robust API is available for key data and metadata exchange needs for the primary business domain with functional requirements for the API having been developed in conjunction with appropriate country, regional and global stakeholders. API endpoints exist for core data and metadata elements which adhere to standards developed by an appropriate Standards Development Organization relevant to the tools business domain. Standards-based API endpoints are used in at least four jurisdictions (e.g., countries or states)
	Security	No security controls or implementation guidance are in place	Role-based authorization exists, if appropriate. Guidance on encrypting all remote access (web interface, APIs) is available to implementors	Role-based authorization exists, if appropriate. All remote access (web interface, APIs) is encrypted by default using current best practices. An independent security audit of the software has taken place within the last twelve months

Scalability Scalability	There is at least one jurisdiction (e.g., country, state) deployment for which 20% of all "entities" are managed within the software. There has been at least one evaluation of software performance / load testing	30% of all "entities" are managed within the	primary business domain that the software addresses. For example, an EMR would have a
----------------------------	--	---	---