# DPGA Resources

Possible technologies to use

* Wordpress wiki template
* Bootstrapped Wiki Template
* GitBook

Guide structure

* Getting started
* General resources
* Templates
* Examples
* Others

# Resources Content (Indicators)

Collect existing resources from our different sources

[DPGA - Guide for open content DPG recognition](https://docs.google.com/document/d/1koHmPN78CGumrrFlKpReYPgTqelZIDVXZgXmjK_h650/edit?usp=sharing)

[Feedback on DPG review + website + regitry](https://docs.google.com/document/d/10VFWKc8GIF6HrfFXFBibVoqcGazRf8aqtb9tRqVkFNg/edit?usp=sharing)

[Open standards & Standard bodies](https://docs.google.com/document/d/1xP87JuDCFzyjwe4CJO8J8FlZth4oANOpv2kwovzP3QE/edit?usp=sharing)

[DPG Standard Assessment Grid](https://docs.google.com/spreadsheets/d/1hNv89u6Yp2z5zd3Wlh5KKU1xrblpWt28ows-eXU_IVc/edit?usp=sharing)

[DPGs annual review checklist (provisional)](https://docs.google.com/document/d/1gHLX9sIvv24AGfJAInlu39a8pycAyKHzymxc4XKgOMo/edit?usp=sharing)

[DPG Reviewer Guide](https://docs.google.com/document/d/1tECKjQA0WtD8X2RqteZsBEoH5n6WsZzG4BsdIaIsytQ/edit?usp=sharing)

**1. SDG RELEVANCE**

The Sustainable Development Goals (SDGs) are the world’s shared plan to end extreme poverty, reduce inequality, and protect the planet by 2030.

Adopted by 193 countries in 2015, the SDGs emerged from the most inclusive and comprehensive negotiations in UN history and have inspired people from across sectors, geographies, and cultures. Achieving the goals by 2030 will require heroic and imaginative effort, determination to learn about what works, and agility to adapt to new information and changing trends.

The UN Foundation focuses on ideas and initiatives that generate larger impact, advance the SDG imperative to “leave no one behind,” and are backed by evidence, practical commitments, and action.

Individuals, innovations, and actions are helping the planet realize the potential and promise of the SDGs.

**Digital solutions must demonstrate relevance to one or more SDGs (Sustainable Development Goals)**.

***Evidence required:*** *A description that provides information and/or link(s) to a webpage, article or documentation that adequately demonstrates relevance to one or more of the SDGs.*

## **Resources.**

* **UN:** 
  + [Sustainable Development Goals](https://unfoundation.org/what-we-do/issues/sustainable-development-goals/?gclid=Cj0KCQiAm5ycBhCXARIsAPldzoVSxAdeVlBgnYgoGcjBsiusnyLJSld0aKnMQELkBQjC8F9QqV8uRg8aAgoOEALw_wcB)
* **Read:**
  + [Digital technologies to achieve the UN SDGs](https://www.itu.int/en/mediacentre/backgrounders/Pages/icts-to-achieve-the-united-nations-sustainable-development-goals.aspx)

2. **OPEN LICENSING**

Licenses for open source software, open content and open data are vetted and approved by third party organizations, and we rely on their criteria in order to include them in our list of approved licenses. On top of it, we use SPDX identifiers to easily, efficiently and uniquely refer to each license.

**Open Content:** you are encouraged to use one of the Creative Commons licenses which allow for both derivatives and commercial reuse: *CC BY or CC BY-SA*, or dedicate content to the public domain (CC0). We also accept the following licenses which do not allow for commercial reuse: *CC-BY-NC* and *CC-BY-NC-SA*.

**Open Data:** only accepting conformant licenses to the Open Definition from the Open Data Commons.

**Open Source Software:** only accepting approved licenses from the Open Source Initiative.

The full list of licenses is included below. If you use a license that is not currently listed here but you believe should be included please email *nominations@digitalpublicgoods.net*. We may accept licenses that are pending review by the corresponding licensing group.

## **Resources.**

* **DPGA:** 
  + [Approved Licenses for Digital Public Goods](https://github.com/DPGAlliance/publicgoods-candidates/blob/main/help-center/licenses.md)
* **External:**
  + [Creative Commons License Chooser](https://creativecommons.org/choose/)
  + [The Creative Commons Legal Database](https://creativecommons.org/2020/12/03/explore-the-new-cc-legal-database-site/)
  + [Open Source Initiative Licenses](https://opensource.org/licenses/alphabetical)
  + [Creative Commons Licenses](https://creativecommons.org/about/cclicenses/)

**3. CLEAR OWNERSHIP**

The organization that owns the digital solution must be clearly defined.

**Evidence required**: Link(s) to the copyright, trademarks, or publicly available ownership documentation for the digital solutions.

It could be a webpage that clearly defines who owns the digital solution. Terms of Service may also indicate the ownership of the digital solutions. Additional legal documentation that provides supporting information will strengthen your application.

Digital solutions owned by a parent organization, could highlight the digital solutions on their website to strengthen the application.

**4. PLATFORM INDEPENDENCE**

Digital solutions must not be locked into a specific vendor or product creating a dependency in order to operate. If there are any mandatory dependencies that create more restrictions than the original license should have an open alternative. Non-mandatory dependencies may be replaced with open alternatives without making significant changes to the core digital solution (the source code).

**What is a Software Dependency?**

A software dependency is a code library or package that is reused in a new piece of software. For example, a *machine learning project might call a Python library* to build models or for a project that desires to use a mapping feature in their application and instead of investing capital to build their own the rely on APIs from platforms like ***mapbox*** or ***google*** to provide this feature to their users hence adding their software dependency in their code base.

The benefit of software dependencies is that they allow developers to more quickly deliver software by building on previous work. Software dependencies have revolutionized application development over the past few decades, but they also introduce risks that are frequently overlooked.

Dependencies are declared in the source code of software projects and are situated in different files in respect to different tech stacks as illustrated below.

1. JavaScript (React, React Native, Angular, Vue) - package.json
2. Ruby - Gemfile
3. Python - requirements.txt
4. Java (Spring Boot Apps, Android Apps, Kotlin) - pom.xml/build.gradle
5. PHP (Laravel) - composer.json
6. HTML/CSS - htmlDependency tag.

**Two types of dependencies**

By the Multitude of solutions that we have revised as the DPGA we have summarized there to be two types of dependencies that a Software Project can be based on when it comes to declaring it’s platform independence.

1. **Hard Dependencies**

Hard dependencies refers to a dependency that is responsible or contributes to the core functionality of the software and is either provided by a vendor or is open source.

If the dependency is open source then the hard dependency can be considered to be an open source - hard dependency and will pass the platform independence criteria but if the dependency is provided by a vendor and requires some form of monetary value to utilize then it can be considered to be a proprietary - hard dependency and this will not pass the platform independence criteria.

1. **Soft Dependencies**

Soft dependencies are considered to be third party software services or libraries that are used to support the secondary core function of the software. These dependencies do not become the main source of concern in the

**Open Source**

**Evidence required:** Applicants must provide a description of how open-source components are independent and/or list the open alternatives for any closed component(s).

Applications should be able to demonstrate that close components can be replaced with open alternatives with minimal configuration changes and without requiring a major overhaul of the entire system. This requirement can be best answered by a technical member of your team.

Example: An example answer of this criteria for a solution that has become a DPG is in the following link. [**Dicra Criteria 4**](https://github.com/undpindia/dicra/blob/main/docs/dpg-criteria/criteria-4.md)

**5. DOCUMENTATION**

Digital solutions must have strong documentation. The documentation should allow a technical person unfamiliar with the solution to launch and run the digital solution themselves.

It is important that applicants read their documentation to ensure that they are submitting a quality application that increases your chances of your DPG proposal being accepted (or at least quickly decided on)

**Evidence required:** A detailed description of how the solution is documented as well as link(s) to all relevant documents.

For software solutions, documentation could include an open repo, technical specifications, functional requirements, etc. For data sets or solutions, documentation could describe all the fields in the set, and provide context on how the data was collected and how it should be interpreted. For content, documentation could include relevant compatible apps, software, hardware required to access the content and any instructions on how to use it.

For more details on documentation best practices, please visit this link.

**6. NON-PII DATA EXTRACTION**

Digital solutions must have mechanisms for extracting or importing non-PII (non Personally Identifiable Information) data from or into the system in a non-proprietary format if non-PII data is collected or used.

**Evidence required:** A detailed description of how the non-PII data can be imported or exported into non-proprietary formats such as CSV/XML/JSON etc or via exposing the non-PII data through APIs.

**7. PRIVACY & APPLICABLE LAWS**

Digital solutions must comply with relevant privacy, domestic and other applicable international laws.

**Evidence required:** If the digital solution collects PII data, then link(s) to the privacy policy, terms of service or other relevant legal documentation must be provided.

To strengthen the application, applicants are encouraged to provide a list of the relevant laws that the digital solutions complies within the relevant jurisdiction such as (but not restricted to) General Data Protection Regulation (GDPR), Indian IT Act, Persons with Disabilities Act 2020, Canadian Disabilities Act, Americans with Disabilities Act of 1990, etc.

**8. OPEN STANDARDS & BEST PRACTICES**

Digital solutions must comply with relevant standards, best practices and/or principles.

**Evidence required:** A list of the open standards, best practices & principles that the digital solution adheres to with any relevant links wherever possible. Here is a list of open standards and best practices that you may find helpful.

**Tips For Open Standards**

Open standards establish protocols and building blocks that can help make digital public goods more functional and interoperable. This not only streamlines product development, it removes vendor-imposed boundaries to read or write data files by improving data exchange. Below are some of the common open standards by category:

**Accessibility**

WCAG 2.0/2.1 (Web Content Accessibility Guidelines)

**Security**

ISO/IEC 27001 (Information Security Management)

ISO/IEC 27018:2019 (Information technology — Security techniques — Code of practice for protection of personally identifiable information (PII) in public clouds acting as PII processors)

PKI

HTTPS

SSL

SSH

GPG

RS256

HS256

AES

ES256

**Authentication & Authorization**

OAuth 2

OIDC (OpenID Connect)

JWT (JSON Web Tokens)

SAML (Security Assertion Markup Language)

XACML 3.0 (eXtensible Access Control Markup Language)

**Internationalization (i18n)**

UTF-8

ISO-8859-1

ASCII

**Web standards**

HTML

CSS

ECMAScript (ES 5/6/7)

Latex

**Application Programming Interfaces (APIs)**

OpenAPI

GraphQL

**Data Exchange/ Configuration formats**

JSON

YAML

XML

TOML

CSV

TIFF

HDF5

RDF

**Geographic Information System (GIS)**

GeoPackage

GeoTIFF

**Software Testing**

IEEE829

ISO/IEC/IEEE29119

**Business Process Modelling**

BPMN 2.0

**Credentialing**

W3C VC

**Standard Content formats**

PDF

H5P

ePub

WebM

**Multimedia**

SVG (Scalable Vector Graphics)

PNG (Portable Network Graphics)

JPEG (Joint Photographic Experts Group)

Ogg MP3 (Moving Picture Experts Group: Audio Layer III)

FLAC (Free Lossless Audio Codec)

H.264 (H.264/MPEG-4 AVC)

AAC (Advanced Audio Coding)

MP4 (MPEG-4 Part 14)

**Virtual Reality/ Augmented Reality (VR /AR)**

WebXR

IEEE Digital Reality standards

**Computer Communications Protocols**

WebSocket

**Whistleblowing management systems**

ISO 37002:2021 (Whistleblowing management systems — Guidelines)

**9. DO NO HARM BY DESIGN**

Digital solutions must ensure that steps are taken to anticipate, prevent and do no harm.

**Evidence required:**

a) If the digital solution collects, stores or distributes PII data, then a list of the types of data that is collected, stored or distributed is required along with a detailed description of the steps taken to prevent adverse impacts resulting from its collection, storage and distribution to ensure the privacy, security and integrity of this data.

b) If the digital solution collects, stores or distributes content, then a detailed description of (1) the policies for identifying inappropriate and illegal content and (2) the processes for detecting, moderating, reporting and removing inappropriate/ illegal content.

c) If the digital solution enables interaction between users, then a detailed description of how the project enables users and contributors to protect themselves from harassment as well as link(s) to relevant policies such as a code of conduct.

**Random resources to be categorized**

<https://en.wikipedia.org/wiki/List_of_open_file_formats>