

The following pages detail our proposed taxonomy. Detailed descriptions of the five requirements of good API documentation (dimensions) and 34 generalised API documentation artefacts (categories/sub-dimensions) that help satisfy these requirements within our proposed taxonomy. Descriptions of examples of these documentation artefacts are italicised and provided for illustrative purposes. ILS = In-Literature Score, calculated as a ratio of papers that investigated or reported various issues concerning each artefact. IPS = In-Practice Score, calculated as the average response from our survey instrument. Colour scales indicate relevancy weight within ILS or IPS values for comparative purposes, where red = lowest and green = highest. GCV, AWS, ACV = Presence of category in Google Cloud Vision, Amazon Rekognition, and Azure Cloud Vision documentation. Presence indicated as fully present (✓), partially present (◐), and not present (◑).

landscape	longtable	rp0.45	p0.125	cc	ccc	Key	Description	Primary Sources	ILS	IPS	GCV	AWS	ACV
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8rContinued on next page...

A 7lRequirement 1: API Documentation should include Descriptions of API Usage

A1 Quick-start guides; i.e., a guide to rapidly get started using the API in a specific programming language. S4, S9, S10 [HTML]f6b26bLow[HTML]57bb8aV High

A2 Low-level reference manual; i.e., a manual documenting all API components to review fine-grade detail. S1, S3, S4, S8, S9, S10, S11, S12, S15, S16, S17 [HTML]a7c47dHigh[HTML]a7c47dHigh

A3 Explanation of high level architecture; i.e., explanations of the API's high-level architecture to better understand intent and context. S1, S2, S4, S11, S14, S16, S19, S20 [HTML]ffd666Med[HTML]57bb8aV High

A4 Introspection source code comments; i.e., code implementation and code comments (where applicable) to understand the API author's mindset. S1, S4, S7, S12, S13, S17, S20 [HTML]ffd666Med[HTML]a7c47dHigh

A5 Code snippets of basic component function; i.e., code snippets (with comments) of no more than 30 LoC to understand a basic component functionality within the API. S1, S2, S4, S5, S6, S7, S9, S10, S11, S14, S15, S16, S18, S20, S21 [HTML]57bb8aV High[HTML]57bb8aV High

A6 Step-by-step tutorials with multiple components; i.e., step-by-step tutorials, with screenshots to understand how to build a non-trivial piece of functionality with multiple components of the API. S1, S2, S4, S5, S7, S9, S10, S15, S16, S18, S20, S21 [HTML]57bb8aV High[HTML]57bb8aV High

A7 Downloadable production-ready source code; i.e., downloadable source code of production-ready applications that use the API to understand implementation in a large-scale solution. S1, S2, S5, S9, S15 [HTML]f6b26bLow[HTML]57bb8aV High

A8 Best-practices of implementation; i.e., best-practices of implementation to assist with debugging and efficient use of the API. S1, S2, S4, S5, S7, S8, S9, S14 [HTML]ffd666Med[HTML]57bb8aV High

A9 An exhaustive list of all components; i.e., a list of all the major components that exist within the API. S4, S16, S19 [HTML]f6b26bLow[HTML]57bb8aV High

A10 Minimum system requirements to use the API; i.e., requirements and the dependencies to use the API on a particular system. S4, S7, S13, S17, S19 [HTML]f6b26bLow[HTML]57bb8aV High

A11 Instructions to install/update the API and its release cycle; i.e., instructions to install or begin using the API and details on its release cycle and how to update it. S4, S7, S8, S9, S11, S13, S16, S19 [HTML]ffd666Med[HTML]57bb8aV High

A12 Error definitions describing how to address problems S1, S2, S4, S5, S9, S11, S13 [HTML]ffd666Med[HTML]57bb8aV High

B 7lRequirement 2: API Documentation should include Descriptions of the API's Design Rationale

B1 Entry-point purpose of the API; i.e., a brief description of the purpose or overview of the API as a low barrier to entry. S1, S2, S4, S5, S6, S8, S10, S11, S15, S16 [HTML]a7c47dHigh[HTML]57bb8aV High

B2 What the API can develop; i.e., descriptions of concrete types of applications the API can develop. S2, S4, S9, S11, S15, S18 [HTML]ffd666Med[HTML]57bb8aV High

B3 Who should use the API; i.e., descriptions of the types of users who should use the API. S4, S9 [HTML]e67c73V Low[HTML]a7c47dHigh

B4 Who will use the applications built using the API; i.e., descriptions of the types of users who will use the product the API creates. S4 [HTML]e67c73V Low[HTML]ffd666Med

B5 Success stories on the API; i.e., example success stories of major users that describe how well the API was used in production. S4 [HTML]e67c73V Low[HTML]57bb8aV High

B6 Documentation comparing similar APIs to this API S2, S6, S13, S18 [HTML]f6b26bLow[HTML]a7c47dHigh

B7 Limitations on what the API can/cannot provide S4, S5, S8, S9, S14, S16 [HTML]ffd666Med[HTML]57bb8aV High

C 7lRequirement 3: API Documentation should include Descriptions of the Domain Concepts behind the API

C1 Relationship between API components and domain concepts S3, S10 [HTML]e67c73V Low[HTML]a7c47dHigh

C2 Definitions of domain terminology; i.e., definitions of the domain-terminology and concepts, with synonyms if applicable. S2, S3, S4, S6, S7, S10, S14, S16 [HTML]ffd666Med[HTML]57bb8aV High

C3 Documentation for nontechnical audiences; i.e., generalised documentation for non-technical audiences regarding the API and its domain. S4, S8, S16 [HTML]f6b26bLow[HTML]a7c47dHigh

D 7lRequirement 4: API Documentation should include Additional Support Artefacts to aide Developer Productivity

D1 FAQs S4, S7 [HTML]e67c73V Low[HTML]57bb8aV High

D2 Troubleshooting hints S4, S8 [HTML]e67c73V Low[HTML]a7c47dHigh

D3 API diagrams; i.e., diagrammatically representing API components using visual architectural representations. S6, S13, S20 [HTML]f6b26bLow[HTML]57bb8aV High

D4 Contact for technical support S4, S8, S19 [HTML]f6b26bLow[HTML]ffd666Med

D5 Printed guide S4, S6, S7, S9, S16 [HTML]f6b26bLow[HTML]57bb8aV High

D6 Licensing information S7 [HTML]e67c73V Low[HTML]57bb8aV High

E 7lRequirement 5: API Documentation should be Presented in an Easily Digestible Format

E1 Searchable knowledge base S3, S4, S6, S10, S14, S17, S18 [HTML]ffd666Med[HTML]57bb8aV High

E2 Context-specific discussion forums S4, S10, S11 [HTML]f6b26bLow[HTML]57bb8aV High

E3 Quick-links to other relevant components S6, S16, S20 [HTML]f6b26bLow[HTML]57bb8aV High

E4 Structured navigation style; i.e., breadcrumbs S6, S10, S20 [HTML]f6b26bLow[HTML]a7c47dHigh

E5 Visualised map of navigational paths; i.e., to certain API components in the website. S6, S14, S20 [HTML]f6b26bLow[HTML]57bb8aV High

E6 Consistent look and feel S1, S2, S3, S5, S6, S8, S10, S15, S20 [HTML]a7c47dHigh[HTML]57bb8aV High