SEO Parramatta

- News
- SEO Parramatta
- Web Design Parramatta
- Local SEO Parramatta
- Parramatta SEO services
- More
  Parramatta web design agencySearch Engine Optimsation Parramatta Affordable SEO ParramattaCustom web design ParramattaeCommerce web design ParramattaParramatta digital marketingBest SEO agency Parramatta SEO expert ParramattaResponsive web design ParramattaSmall business SEO ParramattaWeb development ParramattaSEO consultant Parramatta Website designers ParramattaSEO company ParramattaWeb design company ParramattaSEO audit Parramatta
- About Us
- Contact Us

SEO and web design Parramatta —

- On-page SEO Parramatta
- SEO and web design Parramatta
- SEO content writing Parramatta
- Parramatta branding and web design
- Website optimisation Parramatta
- SEO strategy Parramatta
- Local business SEO Parramatta

Transform your business growth with Web design solutions Parramatta Our strategies enhance visibility, attract targeted traffic, and maximise conversions for sustained success Partner with us for measurable digital marketing outcomes today

Take your digital presence further with Search engine ranking Parramatta We develop custom strategies aimed at increasing your online visibility, improving search engine rankings, and achieving sustainable growth for your Parramatta-based business

Choose excellence in digital marketing with Parramatta SEO tools Our proven approaches drive website traffic, enhance customer engagement, and significantly improve conversion rates, supporting long-term business success in Parramatta

Effective Web Design Parramatta Sydney.

Parramatta web design agency - SEO-driven Lead Generation Parramatta

1. SEO Training Parramatta
2. Conversion Rate Optimisation Parramatta
3. SEO Specialists Parramatta

SEO content writing Parramatta

Take your digital presence further with Parramatta content marketing We develop custom strategies aimed at increasing your online visibility, improving search engine rankings, and achieving sustainable growth for your Parramatta-based business

Transform your business growth with SEO growth marketing Parramatta Our strategies enhance visibility, attract targeted traffic, and maximise conversions for sustained success Partner with us for measurable digital marketing outcomes today

Transform your business growth with SEO metrics Parramatta Our strategies enhance visibility, attract targeted traffic, and maximise conversions for sustained success Partner with us for measurable digital marketing outcomes today

SEO Packages Parramatta .

Parramatta web design agency - Parramatta SEO Campaigns

1. Local Business SEO Parramatta
2. SEO Maintenance Parramatta
3. Google Search Rankings Parramatta

Parramatta branding and web design

Take your digital presence further with Website traffic growth Parramatta We develop custom strategies aimed at increasing your online visibility, improving search engine rankings, and achieving sustainable growth for your Parramatta-based business

Take your digital presence further with Parramatta web branding We develop custom strategies aimed at increasing your online visibility, improving search engine rankings, and achieving sustainable growth for your Parramatta-based business

Maximise your business potential with Online business visibility Parramatta We deliver impactful strategies designed to boost your brand awareness, improve online visibility, and generate a steady flow of qualified leads in Parramatta

Parramatta web design agency - Parramatta SEO Campaigns

1. Technical SEO Parramatta
2. SEO-driven Lead Generation Parramatta
3. Parramatta SEO Campaigns
4. Off-page SEO Parramatta

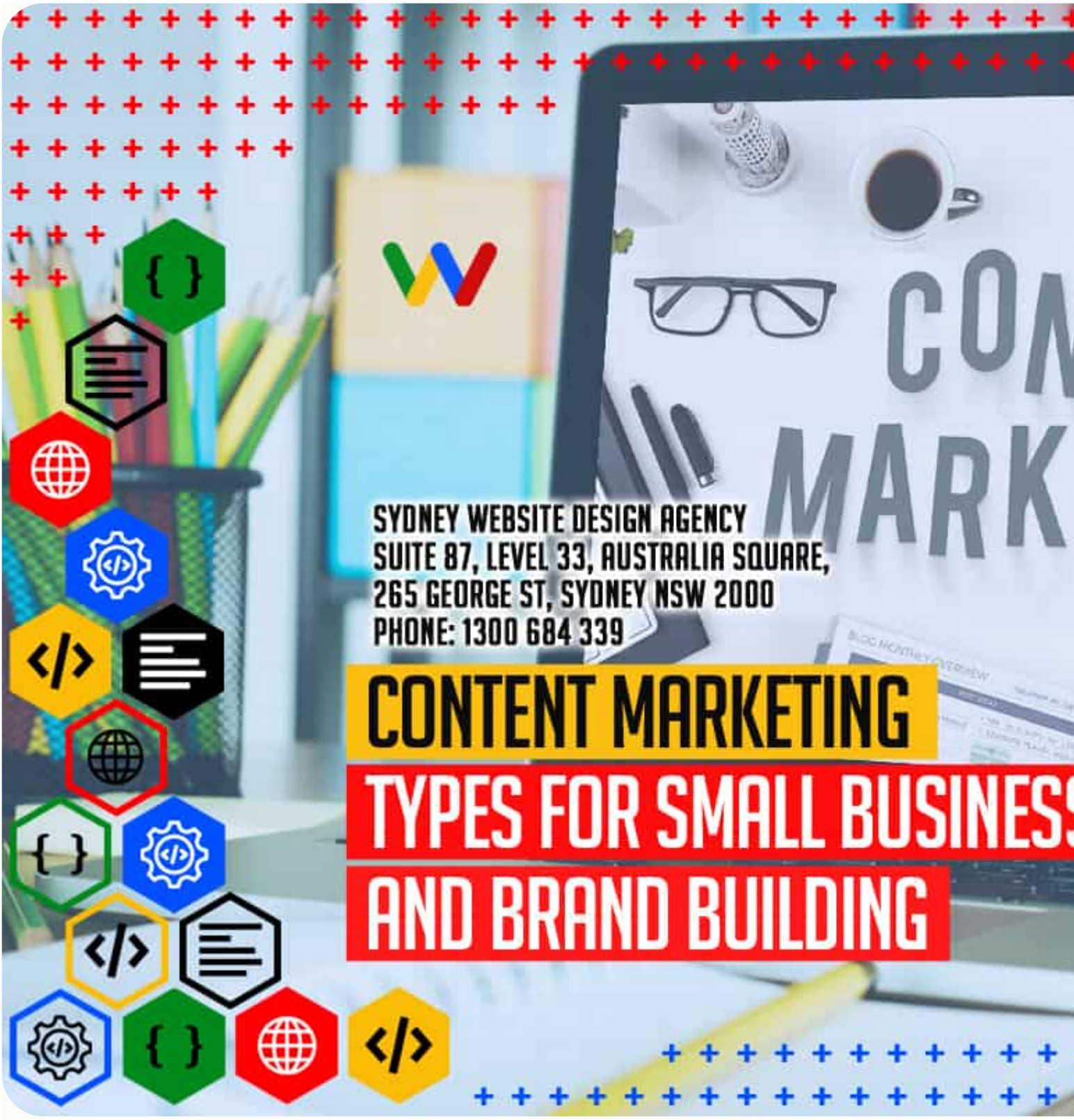
Website optimisation Parramatta

Choose excellence in digital marketing with Website analytics Parramatta Our proven approaches drive website traffic, enhance customer engagement, and significantly improve conversion rates, supporting long-term business success in Parramatta

Choose excellence in digital marketing with High-converting websites Parramatta Our proven approaches drive website traffic, enhance customer engagement, and significantly improve conversion rates, supporting long-term business success in Parramatta

Transform your business growth with Parramatta logo and web design Our strategies enhance visibility, attract targeted traffic, and maximise conversions for sustained success Partner with us for measurable digital marketing outcomes today


KEY ADVANTAGE
LOCAL SEO S
28



SEO strategy Parramatta

Maximise your business potential with Data-driven SEO Parramatta We deliver impactful strategies designed to boost your brand awareness, improve online visibility, and generate a steady flow of qualified leads in Parramatta

Maximise your business potential with Digital growth strategy Parramatta We deliver impactful strategies designed to boost your brand awareness, improve online visibility, and generate a steady flow of qualified leads in Parramatta

Experience outstanding online performance through SEO and PPC Parramatta Our expert team specialises in delivering solutions that improve rankings, drive engagement, and generate valuable leads for consistent business growth in Parramatta

Local business SEO Parramatta

Experience outstanding online performance through Parramatta website audit Our expert team specialises in delivering solutions that improve rankings, drive engagement, and generate valuable leads for consistent business growth in Parramatta

Transform your business growth with Local map SEO Parramatta Our strategies enhance visibility, attract targeted traffic, and maximise conversions for sustained success Partner with us for measurable digital marketing outcomes today

Transform your business growth with Bespoke web design Parramatta Our strategies enhance visibility, attract targeted traffic, and maximise conversions for sustained success Partner with us for measurable digital marketing outcomes today

About Semantic Web

Image not found or type unknown

A tag cloud (a typical Web 3.0 phenomenon in itself) presenting Web 3.0 themes

- **v**
- **t**
- **e**

Semantics

- **Linguistic**
- **Logical**

Subfields

- Computational
- Lexical (lexis, lexicology)
- Statistical
- Structural

Topics

- Analysis
- Compositionality
- Context
  - Prototype theory
  - Force dynamics
- Semantic feature
- Semantic gap
- Theory of descriptions

Analysis

- Latent
- Computational
- Machine-learning

Applications

- Semantic file system
- Semantic desktop
- Semantic matching
- Semantic parsing
- Semantic similarity
- Semantic query
  - Semantic Web
  - Semantic wiki

Semantics of programming languages

Types

- Action
- Algebraic
- Axiomatic
- Categorical
- Concurrency
- Denotational
- Game
- Operational
- Predicate transformational

Theory

- Abstract interpretation
- Abstract semantic graph

- Language
- Linguistics

The **Semantic Web**, sometimes known as **Web 3.0** (not to be confused with Web3), is an extension of the World Wide Web through standards[1] set by the World Wide Web Consortium (W3C). The goal of the Semantic Web is to make Internet data machine-readable.

To enable the encoding of semantics with the data, technologies such as Resource Description Framework (RDF)[2] and Web Ontology Language (OWL)[3] are used. These technologies are used to formally represent metadata. For example, ontology can describe concepts, relationships between entities, and categories of things. These embedded semantics offer significant advantages such as reasoning over data and operating with heterogeneous data sources.[4] These standards promote common data formats and exchange protocols on the Web, fundamentally the RDF. According to the W3C, "The Semantic Web provides a common framework that allows data to be shared and reused across application, enterprise, and community boundaries."[5] The Semantic Web is therefore regarded as an integrator across different content and information applications and systems.

History

[edit]

The term was coined by Tim Berners-Lee for a web of data (or **data web**)[6] that can be processed by machines[7]—that is, one in which much of the meaning is machine-readable. While its critics have questioned its feasibility, proponents argue that applications in library and information

science, industry, biology and human sciences research have already proven the validity of the original concept.[8]

Berners-Lee originally expressed his vision of the Semantic Web in 1999 as follows:

> I have a dream for the Web [in which computers] become capable of analyzing all the data on the Web – the content, links, and transactions between people and computers. A "Semantic Web", which makes this possible, has yet to emerge, but when it does, the day-to-day mechanisms of trade, bureaucracy and our daily lives will be handled by machines talking to machines. The "intelligent agents" people have touted for ages will finally materialize.[9]

The 2001 *Scientific American* article by Berners-Lee, Hendler, and Lassila described an expected evolution of the existing Web to a Semantic Web.[10] In 2006, Berners-Lee and colleagues stated that: "This simple idea…remains largely unrealized".[11] In 2013, more than four million Web domains (out of roughly 250 million total) contained Semantic Web markup.[12]

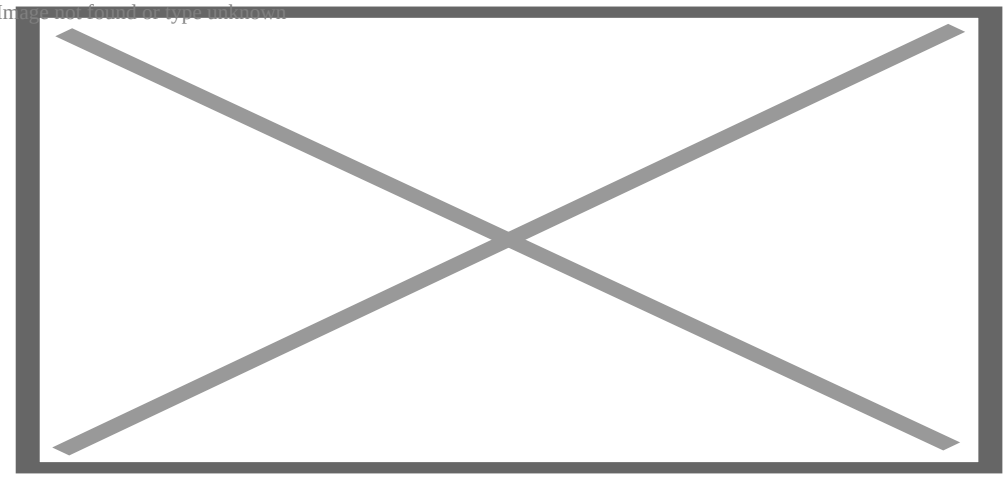
Example

[edit]

In the following example, the text "Paul Schuster was born in Dresden" on a website will be annotated, connecting a person with their place of birth. The following HTML fragment shows how a small graph is being described, in RDFa-syntax using a schema.org vocabulary and a Wikidata ID:

```
<div vocab="https://schema.org/" typeof="Person">
  <span property="name">Paul Schuster</span> was born in
  <span property="birthPlace" typeof="Place" href="https://www.wikidata.org/entity/Q1731">
    <span property="name">Dresden</span>.
  </span>
</div>
```

Image not found or type unknown

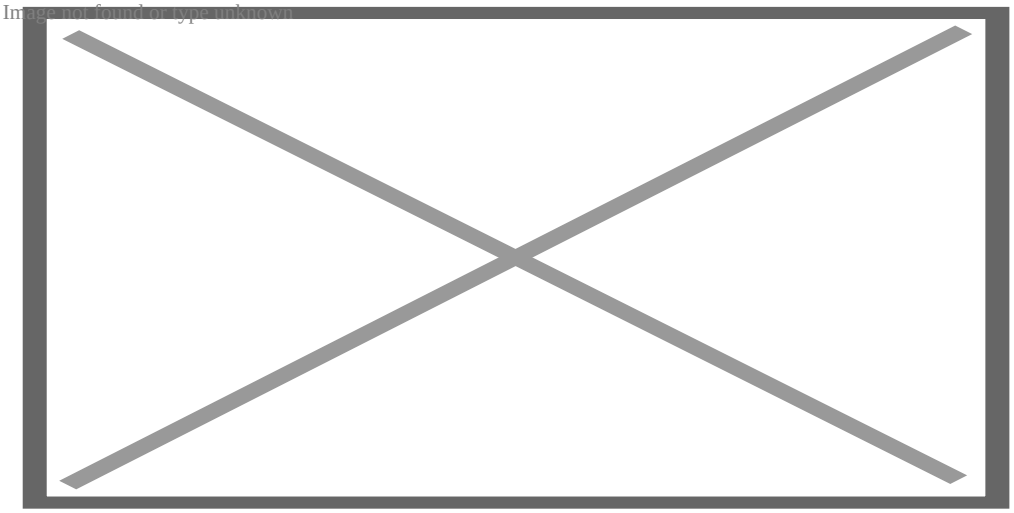


Graph resulting from the RDFa example

The example defines the following five triples (shown in Turtle syntax). Each triple represents one edge in the resulting graph: the first element of the triple (the *subject*) is the name of the node where the edge starts, the second element (the *predicate*) the type of the edge, and the last and third element (the *object*) either the name of the node where the edge ends or a literal value (e.g. a text, a number, etc.).

```
_:a <https://www.w3.org/1999/02/22-rdf-syntax-ns#type> <https://schema.org/Person> .
_:a <https://schema.org/name> "Paul Schuster" .
_:a <https://schema.org/birthPlace> <https://www.wikidata.org/entity/Q1731> .
<https://www.wikidata.org/entity/Q1731> <https://schema.org/itemtype> <https://schema.org/Place> .
<https://www.wikidata.org/entity/Q1731> <https://schema.org/name> "Dresden" .
```

The triples result in the graph shown in the given figure.



Graph resulting from the RDFa example, enriched with further data from the Web

One of the advantages of using Uniform Resource Identifiers (URIs) is that they can be dereferenced using the HTTP protocol. According to the so-called Linked Open Data principles, such a dereferenced URI should result in a document that offers further data about the given URI. In this example, all URIs, both for edges and nodes (e.g. http://schema.org/Person, http://schema.org/birthPlace, http://www.wikidata.org/entity/Q1731) can be dereferenced and will result in further RDF graphs, describing the URI, e.g. that Dresden is a city in Germany, or that a person, in the sense of that URI, can be fictional.

The second graph shows the previous example, but now enriched with a few of the triples from the documents that result from dereferencing https://schema.org/Person (green edge) and https://www.wikidata.org/entity/Q1731 (blue edges).

Additionally to the edges given in the involved documents explicitly, edges can be automatically inferred: the triple

_:a <https://www.w3.org/1999/02/22-rdf-syntax-ns#type> <http://schema.org/Person> .

from the original RDFa fragment and the triple

<https://schema.org/Person> <http://www.w3.org/2002/07/owl#equivalentClass> <http://xmlns.com/foaf/0

from the document at https://schema.org/Person (green edge in the figure) allow to infer the following triple, given OWL semantics (red dashed line in the second Figure):

_:a <https://www.w3.org/1999/02/22-rdf-syntax-ns#type> <http://xmlns.com/foaf/0.1/Person> .

Background

[edit]
Further information: Semantic network § History

The concept of the semantic network model was formed in the early 1960s by researchers such as the cognitive scientist Allan M. Collins, linguist Ross Quillian and psychologist Elizabeth F. Loftus as a form to represent semantically structured knowledge. When applied in the context of the modern internet, it extends the network of hyperlinked human-readable web pages by inserting machine-readable metadata about pages and how they are related to each other. This enables automated agents to access the Web more intelligently and perform more tasks on behalf of users. The term "Semantic Web" was coined by Tim Berners-Lee,[7] the inventor of the World Wide Web and director of the World Wide Web Consortium ("W3C"), which oversees the development of proposed Semantic Web standards. He defines the Semantic Web as "a web of data that can be processed directly and indirectly by machines".

Many of the technologies proposed by the W3C already existed before they were positioned under the W3C umbrella. These are used in various contexts, particularly those dealing with information that encompasses a limited and defined domain, and where sharing data is a common necessity, such as scientific research or data exchange among businesses. In addition, other technologies with similar goals have emerged, such as microformats.

Limitations of HTML

[edit]

Many files on a typical computer can be loosely divided into either human-readable documents, or machine-readable data. Examples of human-readable document files are mail messages, reports, and brochures. Examples of machine-readable data files are calendars, address books, playlists, and spreadsheets, which are presented to a user using an application program that lets the files be viewed, searched, and combined.

Currently, the World Wide Web is based mainly on documents written in Hypertext Markup Language (HTML), a markup convention that is used for coding a body of text interspersed with multimedia objects such as images and interactive forms. Metadata tags provide a method by which computers can categorize the content of web pages. In the examples below, the field names "keywords", "description" and "author" are assigned values such as "computing", and "cheap widgets for sale" and "John Doe".

```
<meta name="keywords" content="computing, computer studies, computer" />
<meta name="description" content="Cheap widgets for sale" />
<meta name="author" content="John Doe" />
```

Because of this metadata tagging and categorization, other computer systems that want to access and share this data can easily identify the relevant values.

With HTML and a tool to render it (perhaps web browser software, perhaps another user agent), one can create and present a page that lists items for sale. The HTML of this catalog page can make simple, document-level assertions such as "this document's title is 'Widget Superstore'", but there is no capability within the HTML itself to assert unambiguously that, for example, item number X586172 is an Acme Gizmo with a retail price of €199, or that it is a consumer product. Rather, HTML can only say that the span of text "X586172" is something that should be positioned near "Acme Gizmo" and "€199", etc. There is no way to say "this is a catalog" or even to establish that "Acme Gizmo" is a kind of title or that "€199" is a price. There is also no way to express that these pieces of information are bound together in describing a discrete item, distinct from other items perhaps listed on the page.

Semantic HTML refers to the traditional HTML practice of markup following intention, rather than specifying layout details directly. For example, the use of denoting "emphasis" rather than <i>, which specifies italics. Layout details are left up to the browser, in combination with Cascading Style Sheets. But this practice falls short of specifying the semantics of objects such as items for sale or prices.

Microformats extend HTML syntax to create machine-readable semantic markup about objects including people, organizations, events and products.[13] Similar initiatives include RDFa, Microdata and Schema.org.

Semantic Web solutions

[edit]

The Semantic Web takes the solution further. It involves publishing in languages specifically designed for data: Resource Description Framework (RDF), Web Ontology Language (OWL), and Extensible Markup Language (XML). HTML describes documents and the links between them. RDF, OWL, and XML, by contrast, can describe arbitrary things such as people, meetings, or airplane parts.

These technologies are combined in order to provide descriptions that supplement or replace the content of Web documents. Thus, content may manifest itself as descriptive data stored in Web-accessible databases,[14] or as markup within documents (particularly, in Extensible HTML (XHTML) interspersed with XML, or, more often, purely in XML, with layout or rendering cues stored separately). The machine-readable descriptions enable content managers to add meaning to the content, i.e., to describe the structure of the knowledge we have about that content. In this way, a machine can process knowledge itself, instead of text, using processes similar to human deductive reasoning and inference, thereby obtaining more meaningful results and helping computers to perform automated information gathering and research.

An example of a tag that would be used in a non-semantic web page:

<item>blog</item>

Encoding similar information in a semantic web page might look like this:

<item rdf:about="https://example.org/semantic-web/">Semantic Web</item>

Tim Berners-Lee calls the resulting network of Linked Data the Giant Global Graph, in contrast to the HTML-based World Wide Web. Berners-Lee posits that if the past was document sharing, the future is data sharing. His answer to the question of "how" provides three points of instruction. One, a URL should point to the data. Two, anyone accessing the URL should get data back. Three, relationships in the data should point to additional URLs with data.

Tags and identifiers

[edit]

Tags, including hierarchical categories and tags that are collaboratively added and maintained (e.g. with folksonomies) can be considered part of, of potential use to or a step towards the semantic Web vision.[15][16][17]

Unique identifiers, including hierarchical categories and collaboratively added ones, analysis tools and metadata, including tags, can be used to create forms of semantic webs – webs that are to a certain degree semantic.[18] In particular, such has been used for structuring scientific research i.a. by research topics and scientific fields by the projects OpenAlex,[19][20][21] Wikidata and Scholia which are under development and provide APIs, Web-pages, feeds and graphs for various semantic queries.

Web 3.0

[edit]

Tim Berners-Lee has described the Semantic Web as a component of Web 3.0.[22]

> People keep asking what Web 3.0 is. I think maybe when you've got an overlay of scalable vector graphics – everything rippling and folding and looking misty – on Web 2.0 and access to a semantic Web integrated across a huge space of data, you'll have access to an unbelievable data resource …
>
> —Ãƒ Æ’Ã†â€™Ãƒâ€ Ã¢â‚¬â„¢Ãƒ Æ’Ã¢â‚¬Â Ãƒ Â¢Ã¢â€šÂ¬Ã¢â€žÂ¢Ãƒ Æ’Ã†â€™Ãƒ Â¢Ã¢â€šÂ¬Ã‚Â
> *Tim Berners-Lee, 2006*

"Semantic Web" is sometimes used as a synonym for "Web 3.0",[23] though the definition of each term varies.

Beyond Web 3.0

[edit]

The next generation of the Web is often termed Web 4.0, but its definition is not clear. According to some sources, it is a Web that involves artificial intelligence,[24] the internet of things, pervasive computing, ubiquitous computing and the Web of Things among other concepts.[25] According to the European Union, Web 4.0 is "the expected fourth generation of the World Wide Web. Using advanced artificial and ambient intelligence, the internet of things, trusted blockchain transactions, virtual worlds and XR capabilities, digital and real objects and environments are fully integrated and communicate with each other, enabling truly intuitive, immersive experiences, seamlessly blending the physical and digital worlds".[26]

Challenges

[edit]

Some of the challenges for the Semantic Web include vastness, vagueness, uncertainty, inconsistency, and deceit. Automated reasoning systems will have to deal with all of these issues in order to deliver on the promise of the Semantic Web.

- Vastness: The World Wide Web contains many billions of pages. The SNOMED CT medical terminology ontology alone contains 370,000 class names, and existing technology has not yet been able to eliminate all semantically duplicated terms. Any automated reasoning system will have to deal with truly huge inputs.
- Vagueness: These are imprecise concepts like "young" or "tall". This arises from the vagueness of user queries, of concepts represented by content providers, of matching query terms to provider terms and of trying to combine different knowledge bases with overlapping but subtly different concepts. Fuzzy logic is the most common technique for dealing with vagueness.
- Uncertainty: These are precise concepts with uncertain values. For example, a patient might present a set of symptoms that correspond to a number of different distinct diagnoses each with a different probability. Probabilistic reasoning techniques are generally employed to address uncertainty.
- Inconsistency: These are logical contradictions that will inevitably arise during the development of large ontologies, and when ontologies from separate sources are combined. Deductive reasoning fails catastrophically when faced with inconsistency, because "anything follows from a contradiction". Defeasible reasoning and paraconsistent reasoning are two techniques that can be employed to deal with inconsistency.
- Deceit: This is when the producer of the information is intentionally misleading the consumer of the information. Cryptography techniques are currently utilized to alleviate this threat. By providing a means to determine the information's integrity, including that which relates to the identity of the entity that produced or published the information, however credibility issues still have to be addressed in cases of potential deceit.

This list of challenges is illustrative rather than exhaustive, and it focuses on the challenges to the "unifying logic" and "proof" layers of the Semantic Web. The World Wide Web Consortium (W3C) Incubator Group for Uncertainty Reasoning for the World Wide Web[27] (URW3-XG) final report lumps these problems together under the single heading of "uncertainty".[28] Many of the techniques mentioned here will require extensions to the Web Ontology Language (OWL) for example to annotate conditional probabilities. This is an area of active research.[29]

Standards

[edit]

Standardization for Semantic Web in the context of Web 3.0 is under the care of W3C.[30]

Components

[edit]

The term "Semantic Web" is often used more specifically to refer to the formats and technologies that enable it.[5] The collection, structuring and recovery of linked data are enabled by technologies that provide a formal description of concepts, terms, and relationships within a given knowledge domain. These technologies are specified as W3C standards and include:

- Resource Description Framework (RDF), a general method for describing information
- RDF Schema (RDFS)
- Simple Knowledge Organization System (SKOS)
- SPARQL, an RDF query language
- Notation3 (N3), designed with human readability in mind
- N-Triples, a format for storing and transmitting data
- Turtle (Terse RDF Triple Language)
- Web Ontology Language (OWL), a family of knowledge representation languages
- Rule Interchange Format (RIF), a framework of web rule language dialects supporting rule interchange on the Web
- JavaScript Object Notation for Linked Data (JSON-LD), a JSON-based method to describe data
- ActivityPub, a generic way for client and server to communicate with each other. This is used by the popular decentralized social network Mastodon.

The Semantic Web Stack illustrates the architecture of the Semantic Web. The functions and relationships of the components can be summarized as follows:[31]

- XML provides an elemental syntax for content structure within documents, yet associates no semantics with the meaning of the content contained within. XML is not at present a necessary component of Semantic Web technologies in most cases, as alternative syntaxes exist, such as Turtle. Turtle is a de facto standard, but has not been through a formal standardization process.
- XML Schema is a language for providing and restricting the structure and content of elements contained within XML documents.
- RDF is a simple language for expressing data models, which refer to objects ("web resources") and their relationships. An RDF-based model can be represented in a variety of syntaxes, e.g., RDF/XML, N3, Turtle, and RDFa. RDF is a fundamental standard of the Semantic Web.[32][33]
- RDF Schema extends RDF and is a vocabulary for describing properties and classes of RDF-based resources, with semantics for generalized-hierarchies of such properties and classes.
- OWL adds more vocabulary for describing properties and classes: among others, relations between classes (e.g. disjointness), cardinality (e.g. "exactly one"), equality, richer typing of

properties, characteristics of properties (e.g. symmetry), and enumerated classes.
- SPARQL is a protocol and query language for semantic web data sources.
- RIF is the W3C Rule Interchange Format. It is an XML language for expressing Web rules that computers can execute. RIF provides multiple versions, called dialects. It includes a RIF Basic Logic Dialect (RIF-BLD) and RIF Production Rules Dialect (RIF PRD).

Current state of standardization

[edit]

Well-established standards:

- RDF - Resource Description Framework
- RDFS - Resource Description Framework Schema
- RIF - Rule Interchange Format
- SPARQL - 'SPARQL Protocol and RDF Query Language'
- Unicode
- URI - Uniform Resource Identifier
- OWL - Web Ontology Language
- XML - Extensible Markup Language

Not yet fully realized:

- Unifying Logic and Proof layers
- SWRL - Semantic Web Rule Language

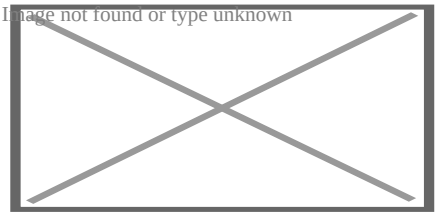
Applications

[edit]

The intent is to enhance the usability and usefulness of the Web and its interconnected resources by creating semantic web services, such as:

- Servers that expose existing data systems using the RDF and SPARQL standards. Many converters to RDF exist from different applications.[34] Relational databases are an important source. The semantic web server attaches to the existing system without affecting its operation.
- Documents "marked up" with semantic information (an extension of the HTML <meta> tags used in today's Web pages to supply information for Web search engines using web crawlers). This could be machine-understandable information about the human-understandable content of the document (such as the creator, title, description, etc.) or it could be purely metadata representing a set of facts (such as resources and services elsewhere on the site). Note that *anything* that can be identified with a *Uniform Resource Identifier* (URI) can be described, so the semantic web can reason about animals, people, places, ideas, etc. There

are four semantic annotation formats that can be used in HTML documents; Microformat, RDFa, Microdata and JSON-LD.[35] Semantic markup is often generated automatically, rather than manually.



Arguments as distinct semantic units with specified relations and version control on Kialo

- Common metadata vocabularies (ontologies) and maps between vocabularies that allow document creators to know how to mark up their documents so that agents can use the information in the supplied metadata (so that *Author* in the sense of 'the Author of the page' will not be confused with *Author* in the sense of a book that is the subject of a book review).
- Automated agents to perform tasks for users of the semantic web using this data.
- Semantic translation. An alternative or complementary approach are improvements to contextual and semantic understanding of texts – these could be aided via Semantic Web methods so that only increasingly small numbers of mistranslations need to be corrected in manual or semi-automated post-editing.
- Web-based services (often with agents of their own) to supply information specifically to agents, for example, a Trust service that an agent could ask if some online store has a history of poor service or spamming.
- Semantic Web ideas are implemented in collaborative structured argument mapping sites where their relations are organized semantically, arguments can be mirrored (linked) to multiple places, reused (copied), rated, and changed as semantic distinct units. Ideas for such, or a more widely adopted "World Wide Argument Web", go back to at least 2007[36] and have been implemented to some degree in Argüman[37] and Kialo. Further steps towards semantic web services may include enabling "Querying", argument search engines,[38] and "summarizing the contentious and agreed-upon points of a discussion".[39]

Such services could be useful to public search engines, or could be used for knowledge management within an organization. Business applications include:

- Facilitating the integration of information from mixed sources[40]
- Dissolving ambiguities in corporate terminology
- Improving information retrieval thereby reducing information overload and increasing the refinement and precision of the data retrieved[41][42][43][44]
- Identifying relevant information with respect to a given domain[45]
- Providing decision making support

In a corporation, there is a closed group of users and the management is able to enforce company guidelines like the adoption of specific ontologies and use of semantic annotation. Compared to the public Semantic Web there are lesser requirements on scalability and the information circulating within a company can be more trusted in general; privacy is less of an issue outside of

handling of customer data.

Skeptical reactions

[edit]

Practical feasibility

[edit]

Critics question the basic feasibility of a complete or even partial fulfillment of the Semantic Web, pointing out both difficulties in setting it up and a lack of general-purpose usefulness that prevents the required effort from being invested. In a 2003 paper, Marshall and Shipman point out the cognitive overhead inherent in formalizing knowledge, compared to the authoring of traditional web hypertext:[46]

> While learning the basics of HTML is relatively straightforward, learning a knowledge representation language or tool requires the author to learn about the representation's methods of abstraction and their effect on reasoning. For example, understanding the class-instance relationship, or the superclass-subclass relationship, is more than understanding that one concept is a "type of" another concept. [...] These abstractions are taught to computer scientists generally and knowledge engineers specifically but do not match the similar natural language meaning of being a "type of" something. Effective use of such a formal representation requires the author to become a skilled knowledge engineer in addition to any other skills required by the domain. [...] Once one has learned a formal representation language, it is still often much more effort to express ideas in that representation than in a less formal representation [...]. Indeed, this is a form of programming based on the declaration of semantic data and requires an understanding of how reasoning algorithms will interpret the authored structures.

According to Marshall and Shipman, the tacit and changing nature of much knowledge adds to the knowledge engineering problem, and limits the Semantic Web's applicability to specific domains. A further issue that they point out are domain- or organization-specific ways to express knowledge, which must be solved through community agreement rather than only technical means.[46] As it turns out, specialized communities and organizations for intra-company projects have tended to adopt semantic web technologies greater than peripheral and less-specialized communities.[47] The practical constraints toward adoption have appeared less challenging where domain and scope is more limited than that of the general public and the World-Wide Web.[47]

Finally, Marshall and Shipman see pragmatic problems in the idea of (Knowledge Navigator-style) intelligent agents working in the largely manually curated Semantic Web:[46]

> In situations in which user needs are known and distributed information resources are well described, this approach can be highly effective; in situations that are not foreseen and that bring together an unanticipated array of information resources, the Google approach is more robust. Furthermore, the Semantic Web relies on inference chains that are more brittle; a missing element of the chain results in a failure to perform the desired action, while the human can supply missing pieces in a more Google-like approach. [...] cost-benefit tradeoffs can work in favor of specially-created Semantic Web metadata directed at weaving together sensible well-structured domain-specific information resources; close attention to user/customer needs will drive these federations if they are to be successful.

Cory Doctorow's critique ("metacrap")[48] is from the perspective of human behavior and personal preferences. For example, people may include spurious metadata into Web pages in an attempt to mislead Semantic Web engines that naively assume the metadata's veracity. This phenomenon was well known with metatags that fooled the Altavista ranking algorithm into elevating the ranking of certain Web pages: the Google indexing engine specifically looks for such attempts at manipulation. Peter Gärdenfors and Timo Honkela point out that logic-based semantic web technologies cover only a fraction of the relevant phenomena related to semantics.[49][50]

Censorship and privacy

[edit]

Enthusiasm about the semantic web could be tempered by concerns regarding censorship and privacy. For instance, text-analyzing techniques can now be easily bypassed by using other words, metaphors for instance, or by using images in place of words. An advanced implementation of the semantic web would make it much easier for governments to control the viewing and creation of online information, as this information would be much easier for an automated content-blocking machine to understand. In addition, the issue has also been raised that, with the use of FOAF files and geolocation meta-data, there would be very little anonymity associated with the authorship of articles on things such as a personal blog. Some of these concerns were addressed in the "Policy Aware Web" project[51] and is an active research and development topic.

Doubling output formats

[edit]

Another criticism of the semantic web is that it would be much more time-consuming to create and publish content because there would need to be two formats for one piece of data: one for human viewing and one for machines. However, many web applications in development are addressing

this issue by creating a machine-readable format upon the publishing of data or the request of a machine for such data. The development of microformats has been one reaction to this kind of criticism. Another argument in defense of the feasibility of semantic web is the likely falling price of human intelligence tasks in digital labor markets, such as Amazon's Mechanical Turk.[*citation needed*]

Specifications such as eRDF and RDFa allow arbitrary RDF data to be embedded in HTML pages. The GRDDL (Gleaning Resource Descriptions from Dialects of Language) mechanism allows existing material (including microformats) to be automatically interpreted as RDF, so publishers only need to use a single format, such as HTML.

Research activities on corporate applications

[edit]

The first research group explicitly focusing on the Corporate Semantic Web was the ACACIA team at INRIA-Sophia-Antipolis, founded in 2002. Results of their work include the RDF(S) based Corese[52] search engine, and the application of semantic web technology in the realm of distributed artificial intelligence for knowledge management (e.g. ontologies and multi-agent systems for corporate semantic Web) [53] and E-learning.[54]

Since 2008, the Corporate Semantic Web research group, located at the Free University of Berlin, focuses on building blocks: Corporate Semantic Search, Corporate Semantic Collaboration, and Corporate Ontology Engineering.[55]

Ontology engineering research includes the question of how to involve non-expert users in creating ontologies and semantically annotated content[56] and for extracting explicit knowledge from the interaction of users within enterprises.

Future of applications

[edit]

Tim O'Reilly, who coined the term Web 2.0, proposed a long-term vision of the Semantic Web as a web of data, where sophisticated applications are navigating and manipulating it.[57] The data web transforms the World Wide Web from a distributed file system into a distributed database.[58]

See also

[edit]

- AGRIS
- Business semantics management
- Computational semantics
- Calais (Reuters product)

- DBpedia
- Entity–attribute–value model
- EU Open Data Portal
- History of the World Wide Web
- Hyperdata
- Internet of things
- Linked data
- List of emerging technologies
- Nextbio
- Ontology alignment
- Ontology learning
- RDF and OWL
- Semantic computing
- Semantic Geospatial Web
- Semantic heterogeneity
- Semantic integration
- Semantic matching
- Semantic MediaWiki
- Semantic Sensor Web
- Semantic social network
- Semantic technology
- *Semantic Web*
- Semantically-Interlinked Online Communities
- Smart-M3
- Social Semantic Web
- Web engineering
- Web resource
- Web science

References

[edit]

1. **^** Semantic Web at W3C: https://www.w3.org/standards/semanticweb/
2. **^** *"World Wide Web Consortium (W3C), "RDF/XML Syntax Specification (Revised)", 25 Feb. 2014".*
3. **^** *"World Wide Web Consortium (W3C), "OWL Web Ontology Language Overview", W3C Recommendation, 10 Feb. 2004".*
4. **^** *Chung, Seung-Hwa (2018). "The MOUSE approach: Mapping Ontologies using UML for System Engineers". Computer Reviews Journal: 8–29. ISSN 2581-6640.*
5. ^ ***a b*** *"W3C Semantic Web Activity". World Wide Web Consortium (W3C). November 7, 2011 . Retrieved November 26, 2011.*
6. **^** *"Q&A with Tim Berners-Lee, Special Report". Bloomberg. Retrieved 14 April 2018.*
7. ^ ***a b*** *Berners-Lee, Tim; James Hendler; Ora Lassila (May 17, 2001). "The Semantic Web". Scientific American. Retrieved July 2, 2019.*

8. ^ *Lee Feigenbaum (May 1, 2007). "The Semantic Web in Action". Scientific American. Retrieved February 24, 2010.*
9. ^ *Berners-Lee, Tim; Fischetti, Mark (1999). Weaving the Web. HarperSanFrancisco. chapter 12. ISBN 978-0-06-251587-2.*
10. ^ *Berners-Lee, Tim; Hendler, James; Lassila, Ora (May 17, 2001). "The Semantic Web" (PDF). Scientific American. Vol. 284, no. 5. pp. 34–43. JSTOR 26059207. S2CID 56818714. Archived from the original (PDF) on October 10, 2017. Retrieved March 13, 2008.*
11. ^ *Nigel Shadbolt; Wendy Hall; Tim Berners-Lee (2006). "The Semantic Web Revisited" (PDF). IEEE Intelligent Systems. Archived from the original (PDF) on March 20, 2013. Retrieved April 13, 2007.*
12. ^ *Ramanathan V. Guha (2013). "Light at the End of the Tunnel". International Semantic Web Conference 2013 Keynote. Retrieved March 8, 2015.*
13. ^ *Allsopp, John (March 2007). Microformats: Empowering Your Markup for Web 2.0. Friends of ED. p. 368. ISBN 978-1-59059-814-6.*
14. ^ Artem Chebotko and Shiyong Lu, "Querying the Semantic Web: An Efficient Approach Using Relational Databases", LAP Lambert Academic Publishing, ISBN 978-3-8383-0264-5, 2009.
15. ^ *"Towards the Semantic Web: Collaborative Tag Suggestions" (PDF).*
16. ^ *Specia, Lucia; Motta, Enrico (2007). "Integrating Folksonomies with the Semantic Web". The Semantic Web: Research and Applications. Lecture Notes in Computer Science. Vol. 4519. Springer. pp. 624–639. doi:10.1007/978-3-540-72667-8_44. ISBN 978-3-540-72666-1.*
17. ^ *"Bridging the gap between folksonomies and the semantic web: an experience report" (PDF).*
18. ^ *Nicholson, Josh M.; Mordaunt, Milo; Lopez, Patrice; Uppala, Ashish; Rosati, Domenic; Rodrigues, Neves P.; Grabitz, Peter; Rife, Sean C. (5 November 2021). "scite: A smart citation index that displays the context of citations and classifies their intent using deep learning". Quantitative Science Studies. **2** (3): 882–898. doi:10.1162/qss_a_00146.*
19. ^ *Singh Chawla, Dalmeet (24 January 2022). "Massive open index of scholarly papers launches". Nature. doi:10.1038/d41586-022-00138-y. Retrieved 14 February 2022.*
20. ^ *"OpenAlex: The Promising Alternative to Microsoft Academic Graph". Singapore Management University (SMU). Retrieved 14 February 2022.*
21. ^ *"OpenAlex Documentation". Retrieved 18 February 2022.*
22. ^ *Shannon, Victoria (23 May 2006). "A 'more revolutionary' Web". International Herald Tribune. Retrieved 26 June 2006.*
23. ^ *"Web 3.0 Explained, Plus the History of Web 1.0 and 2.0". Investopedia. Retrieved 2022-10-21.*
24. ^ https://www.rsisinternational.org/IJRSI/Issue31/75-78.pdf
25. ^ Almeida, F. (2017). Concept and dimensions of web 4.0. International journal of computers and technology, 16(7).
26. ^ *"The Commission wants the EU to lead on 'Web 4.0' — whatever that is". 11 July 2023.*
27. ^ *"W3C Uncertainty Reasoning for the World Wide Web". www.w3.org. Retrieved 2021-05-14.*
28. ^ *"Uncertainty Reasoning for the World Wide Web". W3.org. Retrieved 20 December 2018.*

29. ^ *Lukasiewicz, Thomas; Umberto Straccia (2008). "Managing uncertainty and vagueness in description logics for the Semantic Web" (PDF). Web Semantics: Science, Services and Agents on the World Wide Web. **6** (4): 291–308. doi:10.1016/j.websem.2008.04.001.*
30. ^ *"Semantic Web Standards". W3.org. Retrieved 14 April 2018.*
31. ^ *"OWL Web Ontology Language Overview". World Wide Web Consortium (W3C). February 10, 2004. Retrieved November 26, 2011.*
32. ^ *"Resource Description Framework (RDF)". World Wide Web Consortium.*
33. ^ *Allemang, Dean; Hendler, James; Gandon, Fabien (August 3, 2020). Semantic Web for the Working Ontologist : Effective Modeling for Linked Data, RDFS, and OWL (Third ed.). [New York, NY, USA]: ACM Books; 3rd edition. ISBN 978-1450376143.*
34. ^ *"ConverterToRdf - W3C Wiki". W3.org. Retrieved 20 December 2018.*
35. ^ *Sikos, Leslie F. (2015). Mastering Structured Data on the Semantic Web: From HTML5 Microdata to Linked Open Data. Apress. p. 23. ISBN 978-1-4842-1049-9.*
36. ^ *Kiesel, Johannes; Lang, Kevin; Wachsmuth, Henning; Hornecker, Eva; Stein, Benno (14 March 2020). "Investigating Expectations for Voice-based and Conversational Argument Search on the Web". Proceedings of the 2020 Conference on Human Information Interaction and Retrieval. ACM. pp. 53–62. doi:10.1145/3343413.3377978. ISBN 9781450368926. S2CID 212676751.*
37. ^ *Vetere, Guido (30 June 2018). "L'impossibile necessità delle piattaforme sociali decentralizzate". DigitCult - Scientific Journal on Digital Cultures. **3** (1): 41–50. doi: 10.4399/97888255159096.*
38. ^ *Bikakis, Antonis; Flouris, Giorgos; Patkos, Theodore; Plexousakis, Dimitris (2023). "Sketching the vision of the Web of Debates". Frontiers in Artificial Intelligence. **6**. doi: 10.3389/frai.2023.1124045. ISSN 2624-8212. PMC 10313200. PMID 37396970.*
39. ^ *Schneider, Jodi; Groza, Tudor; Passant, Alexandre. "A Review of Argumentation for the Social Semantic Web" (PDF).* cite journal: Cite journal requires |journal= (help)
40. ^ *Zhang, Chuanrong; Zhao, Tian; Li, Weidong (2015). Geospatial Semantic Web. Springer International Publishing : Imprint: Springer. ISBN 978-3-319-17801-1.*
41. ^ Omar Alonso and Hugo Zaragoza. 2008. Exploiting semantic annotations in information retrieval: ESAIR '08. SIGIR Forum 42, 1 (June 2008), 55–58. doi:10.1145/1394251.1394262
42. ^ Jaap Kamps, Jussi Karlgren, and Ralf Schenkel. 2011. Report on the third workshop on exploiting semantic annotations in information retrieval (ESAIR). SIGIR Forum 45, 1 (May 2011), 33–41. doi:10.1145/1988852.1988858
43. ^ Jaap Kamps, Jussi Karlgren, Peter Mika, and Vanessa Murdock. 2012. Fifth workshop on exploiting semantic annotations in information retrieval: ESAIR '12). In Proceedings of the 21st ACM international conference on information and knowledge management (CIKM '12). ACM, New York, NY, USA, 2772–2773. doi:10.1145/2396761.2398761
44. ^ Omar Alonso, Jaap Kamps, and Jussi Karlgren. 2015. Report on the Seventh Workshop on Exploiting Semantic Annotations in Information Retrieval (ESAIR '14). SIGIR Forum 49, 1 (June 2015), 27–34. doi:10.1145/2795403.2795412
45. ^ *Kuriakose, John (September 2009). "Understanding and Adopting Semantic Web Technology". Cutter IT Journal. **22** (9). CUTTER INFORMATION CORP.: 10–18.*
46. ^ ***a b c** Marshall, Catherine C.; Shipman, Frank M. (2003). Which semantic web? (PDF). Proc. ACM Conf. on Hypertext and Hypermedia. pp. 57–66. Archived from the original (PDF) on 2015-09-23. Retrieved 2015-04-17.*

47. ^ **a b** Ivan Herman (2007). State of the Semantic Web (PDF). Semantic Days 2007. Retrieved July 26, 2007.
48. ^ Doctorow, Cory. "Metacrap: Putting the torch to seven straw-men of the meta-utopia". www.well.com/. Retrieved 11 September 2023.
49. ^ Gärdenfors, Peter (2004). How to make the Semantic Web more semantic. IOS Press. pp. 17–34. cite book: |work= ignored (help)
50. ^ Honkela, Timo; Könönen, Ville; Lindh-Knuutila, Tiina; Paukkeri, Mari-Sanna (2008). "Simulating processes of concept formation and communication". Journal of Economic Methodology. **15** (3): 245–259. doi:10.1080/13501780802321350. S2CID 16994027.
51. ^ "Policy Aware Web Project". Policyawareweb.org. Retrieved 2013-06-14.
52. ^ Corby, Olivier; Dieng-Kuntz, Rose; Zucker, Catherine Faron; Gandon, Fabien (2006). "Searching the Semantic Web: Approximate Query Processing based on Ontologies". IEEE Intelligent Systems. **21**: 20–27. doi:10.1109/MIS.2006.16. S2CID 11488848.
53. ^ Gandon, Fabien (7 November 2002). Distributed Artificial Intelligence And Knowledge Management: Ontologies And Multi-Agent Systems For A Corporate Semantic Web (phdthesis). Université Nice Sophia Antipolis.
54. ^ Buffa, Michel; Dehors, Sylvain; Faron-Zucker, Catherine; Sander, Peter (2005). "Towards a Corporate Semantic Web Approach in Designing Learning Systems: Review of the Trial Solutioins Project" (PDF). International Workshop on Applications of Semantic Web Technologies for E-Learning. Amsterdam, Holland. pp. 73–76.
55. ^ "Corporate Semantic Web - Home". Corporate-semantic-web.de. Retrieved 14 April 2018.
56. ^ Hinze, Annika; Heese, Ralf; Luczak-Rösch, Markus; Paschke, Adrian (2012). "Semantic Enrichment by Non-Experts: Usability of Manual Annotation Tools" (PDF). ISWC'12 - Proceedings of the 11th international conference on The Semantic Web. Boston, USA. pp. 165–181.
57. ^ Mathieson, S. A. (6 April 2006). "Spread the word, and join it up". The Guardian. Retrieved 14 April 2018.
58. ^ Spivack, Nova (18 September 2007). "The Semantic Web, Collective Intelligence and Hyperdata". novaspivack.typepad.com/nova_spivacks_weblog [This Blog has Moved to NovaSpivack.com]. Retrieved 14 April 2018.

Further reading

[edit]

- Liyang Yu (December 14, 2014). A Developer's Guide to the Semantic Web, 2nd ed. Springer. ISBN 978-3-662-43796-4.
- Aaron Swartz's A Programmable Web: An unfinished Work donated by Morgan & Claypool Publishers after Aaron Swartz's death in January 2013.
- Grigoris Antoniou, Frank van Harmelen (March 31, 2008). A Semantic Web Primer, 2nd Edition. The MIT Press. ISBN 978-0-262-01242-3.
- Allemang, Dean; Hendler, James; Gandon, Fabien (August 3, 2020). Semantic Web for the Working Ontologist : Effective Modeling for Linked Data, RDFS, and OWL (Third ed.). [New York, NY, USA]: ACM Books; 3rd edition. ISBN 978-1450376143.

- *Pascal Hitzler; Markus Krötzsch; Sebastian Rudolph (August 25, 2009). Foundations of Semantic Web Technologies. CRCPress. ISBN 978-1-4200-9050-5.*
- *Thomas B. Passin (March 1, 2004). Explorer's Guide to the Semantic Web. Manning Publications. ISBN 978-1-932394-20-7.*
- *Jeffrey T. Pollock (March 23, 2009). Semantic Web For Dummies. For Dummies. ISBN 978-0-470-39679-7.*
- *Hitzler, Pascal (February 2021). "A Review of the Semantic Web Field". Communications of the ACM. **64** (2): 76–83. doi:10.1145/3397512.*
- *Unni, Deepak (March 2023). "FAIRification of health-related data using semantic web technologies in the Swiss Personalized Health Network". Scientific Data. **10** (1): 127. Bibcode :2023NatSD..10..127T. doi:10.1038/s41597-023-02028-y. PMC 10006404. PMID 36899064.*

External links

[edit]

Semantic Web at Wikipedia's sister projects

- Image not found or type unknown Media from Commons
- Image not found or type unknown Textbooks from Wikibooks
- Image not found or type unknown Data from Wikidata

Image not found or type unknown

Scholia has a *topic* profile for ***Semantic Web***.

- Official website

- **v**
- **t**
- **e**

Semantic Web

Background

- Databases
- Hypertext
- Internet
- Ontologies
- Semantics
- Semantic networks
- World Wide Web

Sub-topics	○ Dataspaces ○ Hyperdata ○ Linked data ○ Rule-based systems
Applications	○ Semantic analytics ○ Semantic broker ○ Semantic computing ○ Semantic mapper ○ Semantic matching ○ Semantic publishing ○ Semantic reasoner ○ Semantic search ○ Semantic service-oriented architecture ○ Semantic wiki ○ Solid
Related topics	○ Collective intelligence ○ Description logic ○ Folksonomy ○ Geotagging ○ Information architecture ○ iXBRL ○ Knowledge extraction ○ Knowledge management ○ Knowledge representation and reasoning ○ Library 2.0 ○ Digital library ○ Digital humanities ○ Metadata ○ References ○ Topic map ○ Web 2.0 ○ Web engineering ○ Web Science Trust

Standards	**Syntax and supporting technologies**	○ HTTP
		○ IRI
		  ○ URI
		○ RDF
		  ○ triples
		  ○ RDF/XML
		  ○ JSON-LD
		  ○ Turtle
		  ○ TriG
		  ○ Notation3
		  ○ N-Triples
		  ○ TriX (no W3C standard)
		○ RRID
		○ SPARQL
		○ XML
		○ Semantic HTML

	Schemas, ontologies and rules	○ Common Logic ○ OWL ○ RDFS ○ Rule Interchange Format ○ Semantic Web Rule Language ○ ALPS ○ SHACL
	Semantic annotation	○ eRDF ○ GRDDL ○ Microdata ○ Microformats ○ RDFa ○ SAWSDL ○ Facebook Platform
	Common vocabularies	○ DOAP ○ Dublin Core ○ FOAF ○ Schema.org ○ SIOC ○ SKOS
	Microformat vocabularies	○ hAtom ○ hCalendar ○ hCard ○ hProduct ○ hRecipe ○ hReview

- **v**
- **t**
- **e**

Emerging technologies

Fields **Information and communications**

- Ambient intelligence
  - Internet of things
- Artificial intelligence
  - Applications of artificial intelligence
  - Machine translation
  - Machine vision
  - Mobile translation
  - Progress in artificial intelligence
  - Semantic Web
  - Speech recognition
- Atomtronics
- Carbon nanotube field-effect transistor
- Cybermethodology
- Extended reality
- Fourth-generation optical discs
  - 3D optical data storage
  - Holographic data storage
- GPGPU
- Memory
  - CBRAM
  - ECRAM
  - FRAM
  - Millipede
  - MRAM
  - NRAM
  - PRAM
  - Racetrack memory
  - RRAM
  - SONOS
  - UltraRAM
- Optical computing
- RFID
  - Chipless RFID
- Software-defined radio
- Three-dimensional integrated circuit

- Automation
- Collingridge dilemma
- Differential technological development
- Disruptive innovation
- Ephemeralization
- Ethics
  - Bioethics
  - Cyberethics
  - Neuroethics
  - Robot ethics
- Exploratory engineering
- Proactionary principle
- Technological change
  - Technological unemployment
- Technological convergence
- Technological evolution
- Technological paradigm
- Technology forecasting
  - Accelerating change
  - Future-oriented technology analysis
  - Horizon scanning
  - Moore's law
  - Technological singularity
  - Technology scouting
- Technology in science fiction
- Technology readiness level
- Technology roadmap
- Transhumanism

Topics

- Image not found or type unknown **List**

- **v**
- **t**
- **e**

Digital humanities

- Computational archaeology
- Computational philosophy
- Computational theory of mind
- Computers and writing
- Cultural analytics
- Cybertext
- Digital classics
- Digital history
- Digital library
- Digital Medievalist
- Digital ontology
- Digital physics
- Digital religion
- Digital rhetoric
- Digital scholarship
- Digital theology
- Digitization
- E-research
- Electronic literature
- Humanistic informatics
- New media
- Philosophy of computer science
- Semantic Web
- Systems theory
- Text Encoding Initiative
- Transliteracy

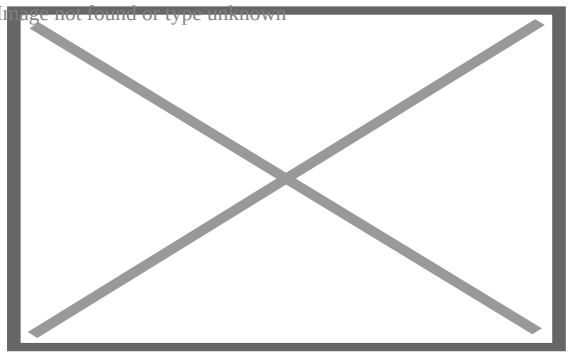
Authority control databases Image not found or type unknown **Edit this at Wikidata**

International	○ FAST
National	○ Germany ○ United States ○ France ○ BnF data ○ Japan ○ Czech Republic ○ Spain ○ Latvia ○ Israel

About Parramatta

This article is about the Australian metropolis. For the local government area, see City of Parramatta. For the rugby league club, see Parramatta Eels. For other uses, see Parramatta (disambiguation).

Image not found or type unknown



Parramatta viewed from the south in 2022

Map

Image not found or type unknown

Coordinates	33°49?S 151°00?E ÃƒÆ'Ã†â€™Ãƒâ€ Ã¢â‚¬â„¢ÃƒÆ'Ã¢â‚¬Â ÃƒÂ¢Ã¢â€šÂ¬Ã¢â€žÂ¢ÃƒÆ'Ã†â€™ÃƒÂ¢Ã¢â€š / ÃƒÆ'Ã†â€™Ãƒâ€ Ã¢â‚¬â„¢ÃƒÆ'Ã¢â‚¬Â ÃƒÂ¢Ã¢â€šÂ¬Ã¢â€žÂ¢ÃƒÆ'Ã†â€™ÃƒÂ¢Ã¢â€š 33.817°S 151.000°E
Population	30,211 (2021 census)[1]
• Density	5,700/km^2 (14,760/sq mi)
Established	1788
Postcode(s)	2150
Elevation	18 m (59 ft)
Area	5.3 km^2 (2.0 sq mi)
Location	24 km (15 mi) west of Sydney CBD (Central Sydney)
LGA(s)	City of Parramatta
Region	Greater Western Sydney Metropolitan area
County	Cumberland[2]
Parish	St John[2]
State electorate(s)	○ Parramatta[3] ○ Baulkham Hills[4] ○ Granville[5]
Federal division(s)	Parramatta[6]

Parramatta (/ ÃƒÆ'Ã†â€™Ãƒâ€ Ã¢â‚¬â„¢ÃƒÆ'Ã¢â‚¬Â ÃƒÂ¢Ã¢â€šÂ¬Ã¢â€žÂ¢ÃƒÆ'Ã†â€™ÃƒÂ¢Ã¢â€šÂ¬Ã…Â ÃƒÆ'Ã pær ÃƒÆ'Ã†â€™Ãƒâ€ Ã¢â‚¬â„¢ÃƒÆ'Ã¢â‚¬Â ÃƒÂ¢Ã¢â€šÂ¬Ã¢â€žÂ¢ÃƒÆ'Ã†â€™ÃƒÂ¢Ã¢â€šÂ¬Ã…Â ÃƒÆ'Ã ÃƒÆ'Ã†â€™Ãƒâ€ Ã¢â‚¬â„¢ÃƒÆ'Ã¢â‚¬Â ÃƒÂ¢Ã¢â€šÂ¬Ã¢â€žÂ¢ÃƒÆ'Ã†â€™ÃƒÂ¢Ã¢â€šÂ¬Ã…Â ÃƒÆ'Ã mæt ÃƒÆ'Ã†â€™Ãƒâ€ Ã¢â‚¬â„¢ÃƒÆ'Ã¢â‚¬Â ÃƒÂ¢Ã¢â€šÂ¬Ã¢â€žÂ¢ÃƒÆ'Ã†â€™ÃƒÂ¢Ã¢â€šÂ¬Ã…Â ÃƒÆ'Ã /; Dharuk: *Burramatta*) is a suburb and major commercial centre in Greater Western Sydney.[7][8] Parramatta is located approximately 24 kilometres (15 mi) west of the Sydney CBD, on the banks of the Parramatta River.[2] It is commonly regarded as the secondary central business district of metropolitan Sydney.

Parramatta is the municipal seat of the local government area of the City of Parramatta and is often regarded as one of the primary centres of the Greater Sydney metropolitan region, along with the Sydney CBD, Penrith, Campbelltown, and Liverpool.[9] Parramatta also has a long history as a second administrative centre in the Sydney metropolitan region, playing host to a number of government departments,[10] as well as state and federal courts. It is often colloquially referred to as "Parra".

Parramatta, which was founded as a British settlement in 1788, the same year as Sydney, is the oldest inland European settlement in Australia and serves as the economic centre of Greater Western Sydney.[11] Since 2000, state government agencies such as the New South Wales Police Force and Sydney Water[12] have relocated to Parramatta from Central Sydney. The 151st meridian east runs directly through the suburb.

History

[edit]

Aboriginal

[edit]

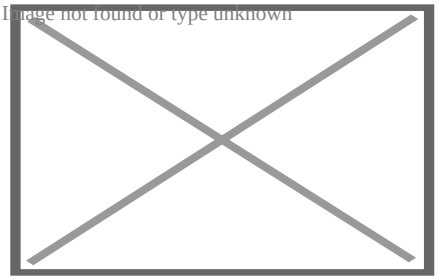
Radiocarbon dating suggests human activity occurred in Parramatta from around 30,000 years ago.[13] The Darug people who lived in the area before European settlement regarded the area as rich in food from the river and forests. They named the area Baramada or Burramatta ('Parramatta') which means Eel ("Burra") Place ("matta"), with the resident Indigenous people being called the Burramattagal. Similar Darug words include Cabramatta (Grub place) and Wianamatta (Mother place).[14] Other references[*which?*] are derived from the words of Captain Watkin Tench, a white British man with a poor understanding of the Darug language, and are incorrect.[*citation needed*] To this day many eels and other sea creatures are attracted to nutrients that are concentrated where the saltwater of Port Jackson meets the freshwater of the Parramatta River. The Parramatta Eels rugby league club chose their symbol as a result of this phenomenon.

Image not found or type unknown

View of Parramatta in 1812

Image not found or type unknown

Parramatta from May's Hill by Joseph Lycett (c. 1824)



Parramatta in 1886

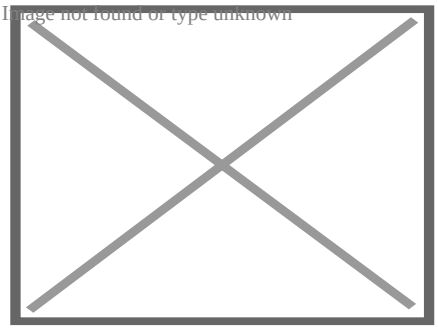
British colonisation

[edit]

Parramatta was colonised by the British in 1788, the same year as Sydney. As such, Parramatta is the second oldest city in Australia, being only 10 months younger than Sydney. The British colonists, who had arrived in January 1788 on the First Fleet at Sydney Cove, had only enough food to support themselves for a short time and the soil around Sydney Cove proved too poor to grow the amount of food that 1,000 convicts, soldiers and administrators needed to survive. During 1788, Governor Arthur Phillip had reconnoitred several places before choosing Parramatta as the most likely place for a successful large farm.[15] Parramatta was the furthest navigable point inland on the Parramatta River (i.e. furthest from the thin, sandy coastal soil) and also the point at which the river became freshwater and therefore useful for farming.

On Sunday 2 November 1788, Governor Phillip took a detachment of marines along with a surveyor and, in boats, made his way upriver to a location that he called The Crescent, a defensible hill curved round a river bend, now in Parramatta Park. The Burramattagal were rapidly displaced with notable residents Maugoran, Boorong and Baludarri being forced from their lands.[16]

As a settlement developed, Governor Phillip gave it the name "Rose Hill" after British politician George Rose.[17] On 4 June 1791 Phillip changed the name of the township to Parramatta, approximating the term used by the local Aboriginal people.[18] A neighbouring suburb acquired the name "Rose Hill", which today is spelt "Rosehill".



The former Female Orphan School was one of the first schools in the area

In an attempt to deal with the food crisis, Phillip in 1789 granted a convict named James Ruse the land of Experiment Farm at Parramatta on the condition that he develop a viable agriculture. There, Ruse became the first European to successfully grow grain in Australia. The Parramatta area was also the site of the pioneering of the Australian wool industry by John Macarthur's Elizabeth Farm in the 1790s. Philip Gidley King's account of his visit to Parramatta on 9 April 1790 is one of the earliest descriptions of the area. Walking four miles with Governor Phillip to Prospect, he saw undulating grassland interspersed with magnificent trees and a great number of kangaroos and emus.[19]

The Battle of Parramatta, a major battle of the Australian frontier wars, occurred in March 1797 where Eora leader Pemulwuy led a group of Bidjigal warriors, estimated to be at least 100, in an attack on the town of Parramatta. The local garrison withdrew to their barracks and Pemulwuy held the town until he was eventually shot and wounded. A year later, a government farm at Toongabbie was attacked by Pemulwuy, who challenged the New South Wales Corps to a fight.[20][21]

Governor Arthur Phillip built a small house for himself on the hill of The Crescent. In 1799 this was replaced by a larger residence which, substantially improved by Governor Lachlan Macquarie from 1815 to 1818, has survived to the present day, making it the oldest surviving Government House anywhere in Australia. It was used as a retreat by Governors until the 1850s, with one Governor (Governor Brisbane) making it his principal home for a short period in the 1820s.

In 1803, another famous incident occurred in Parramatta, involving a convicted criminal named Joseph Samuel, originally from England. Samuel was convicted of murder and sentenced to death by hanging, but the rope broke. In the second attempt, the noose slipped off his neck. In the third attempt, the new rope broke. Governor King was summoned and pardoned Samuel, as the incident appeared to him to be divine intervention.[22]

In 1814, Macquarie opened a school for Aboriginal children at Parramatta as part of a policy of improving relations between Aboriginal and European communities. This school was later relocated to "Black Town".[23]

Parramatta was gazetted as a city on 19 November 1976, and later, a suburb on 10 June 1994.

The first significant skyscrapers began to emerge in Parramatta in the late 1990s and the suburb transformed into a major business and residential hub in the early 2000s. Since then, the suburb's growth has accelerated in the past decade.

On 20 December 2024, the first stage of the Parramatta Light Rail was completed.

Climate

[edit]
Further information: Climate of Sydney

Parramatta has a humid subtropical climate (Köppen climate classification: *Cfa*) with mild to cool, somewhat short winters and warm to usually hot summers, alongside moderate rainfall spread throughout the year.

Summer maximum temperatures are quite variable, often reaching above 35 °C (95 °F), on average 13.1 days in the summer season, and sometimes remaining in the low 20s, especially after a cold front or a sea breeze, such as the southerly buster. Northwesterlies can occasionally bring hot winds from the desert that can raise temperatures higher than 40 °C (104 °F) mostly from November to February, and sometimes above 44 °C (111 °F) in January severe heatwaves. The record highest temperature (since 1967) was 47.0 °C (116.6 °F) on 4 January 2020. Parramatta is warmer than Sydney CBD in the summer due to the urban heat island effect and its inland location. In extreme cases though, it can be 5–10 °C (9–18 °F) warmer than Sydney, especially when sea breezes do not penetrate inland on hot summer and spring days. For example, on 28 November 2009, the city reached 29.3 °C (84.7 °F),[24] while Parramatta reached 39.0 °C (102.2 °F),[25] almost 10 °C (18 °F) higher. In the summer, Parramatta, among other places in western Sydney, can often be the hottest place in the world because of the Blue Mountains trapping hot air in the region, in addition to the UHI effect.[26]

Rainfall is slightly higher during the first three months of the year because the anticlockwise-rotating subtropical high is to the south of the country, thereby allowing moist easterlies from the Tasman Sea to penetrate the city.[27][28] The second half of the year tends to be drier (late winter/spring) since the subtropical high is to the north of the city, thus permitting dry westerlies from the interior to dominate.[29] Drier winters are also owed to its position on the leeward side of the Great Dividing Range, which block westerly cold fronts (that are more common in late winter) and thus would become foehn winds, whereby allowing decent amount of sunny days and relatively low precipitation in that period.[30] Thunderstorms are common in the months from early spring to early autumn, occasionally quite severe thunderstorms can occur. Snow is virtually unknown, having been recorded only in 1836 and 1896[31] Parrammatta gets 106.6 days of clear skies annually.

Depending on the wind direction, summer weather may be humid or dry, though the humidity is mostly in the comfortable range, with the late summer/autumn period having a higher average humidity than late winter/early spring.

Climate data for Parramatta North (1991–2020 averages, 1967–present extremes)

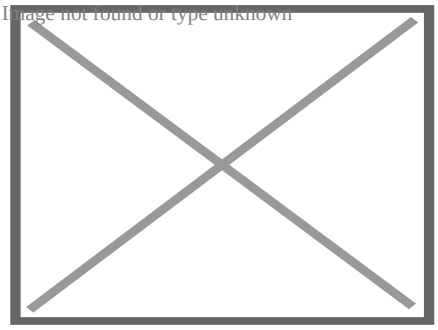
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °C (°F)	47.0 (116.6)	44.5 (112.1)	40.5 (104.9)	37.0 (98.6)	29.2 (84.6)	25.5 (77.9)	26.8 (80.2)	30.6 (87.1)	36.5 (97.7)	40.1 (104.2)	42.7 (108.9)	44.0 (111.2)	47.0 (116.6)
Mean maximum °C (°F)	40.1 (104.2)	37.5 (99.5)	33.9 (93.0)	30.3 (86.5)	26.2 (79.2)	22.3 (72.1)	22.7 (72.9)	25.7 (78.3)	30.8 (87.4)	34.3 (93.7)	36.6 (97.9)	37.6 (99.7)	41.6 (106.9)
Mean daily maximum °C (°F)	29.1 (84.4)	28.3 (82.9)	26.5 (79.7)	23.9 (75.0)	20.9 (69.6)	18.2 (64.8)	17.8 (64.0)	19.5 (67.1)	22.3 (72.1)	24.5 (76.1)	25.8 (78.4)	27.7 (81.9)	23.7 (74.7)

Mean daily minimum °C (°F)	17.9 (64.2)	17.7 (63.9)	15.9 (60.6)	12.6 (54.7)	9.6 (49.3)	7.5 (45.5)	6.3 (43.3)	6.9 (44.4)	9.4 (48.9)	12.0 (53.6)	14.3 (57.7)	16.4 (61.5)	12.2 (54.0
Mean minimum °C (°F)	12.9 (55.2)	12.7 (54.9)	10.9 (51.6)	7.8 (46.0)	4.5 (40.1)	2.9 (37.2)	1.7 (35.1)	2.4 (36.3)	4.5 (40.1)	6.5 (43.7)	8.6 (47.5)	10.9 (51.6)	1.2 (34.2
Record low °C (°F)	10.1 (50.2)	9.2 (48.6)	6.8 (44.2)	4.0 (39.2)	1.4 (34.5)	0.8 (33.4)	?1.0 (30.2)	0.7 (33.3)	0.7 (33.3)	3.6 (38.5)	4.0 (39.2)	7.7 (45.9)	?1.0 (30.2
Average precipitation mm (inches)	89.9 (3.54)	130.3 (5.13)	99.1 (3.90)	78.3 (3.08)	61.3 (2.41)	99.0 (3.90)	48.0 (1.89)	47.4 (1.87)	48.5 (1.91)	61.3 (2.41)	82.0 (3.23)	78.5 (3.09)	923.((36.3(
Average precipitation days (? 1 mm)	8.6	9.0	9.9	7.0	6.3	7.9	6.0	4.8	5.7	7.0	8.7	8.3	89.2
Average afternoon relative humidity (%)	56	59	58	56	59	58	55	45	46	50	54	55	54
Average dew point °C (°F)	16.2 (61.2)	16.8 (62.2)	15.5 (59.9)	12.7 (54.9)	9.9 (49.8)	7.6 (45.7)	5.6 (42.1)	5.5 (41.9)	7.7 (45.9)	9.9 (49.8)	12.3 (54.1)	14.3 (57.7)	11.2 (52.2

Source: Bureau of Meteorology[32]

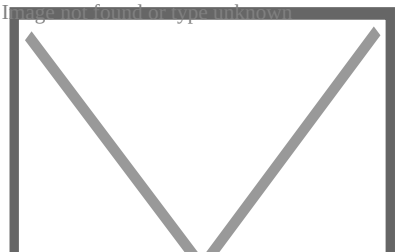
Commercial area

[edit]



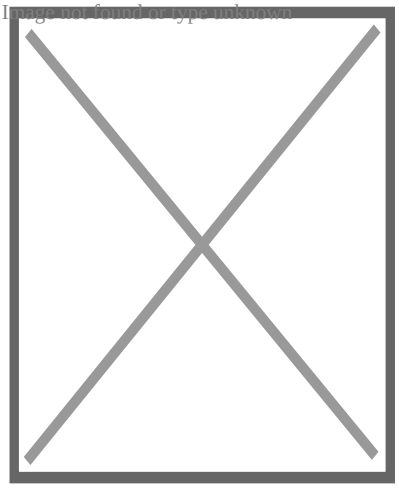
Church Street

Church Street is home to many shops and restaurants. The northern end of Church Street, close to Lennox Bridge, features *al fresco* dining with a diverse range of cuisines. Immediately south of the CBD Church Street is known across Sydney as 'Auto Alley' for the many car dealerships lining both sides of the street as far as the M4 Motorway.[33]



6 & 8 Parramatta Square, Parramatta's tallest building

Since 2000, Parramatta has seen the consolidation of its role as a government centre, with the relocation of agencies such as the New South Wales Police Force Headquarters and the Sydney Water Corporation[12] from Sydney CBD. At the same time, major construction work occurred around the railway station with the expansion of Westfield Shoppingtown and the creation of a new transport interchange. The western part of the Parramatta CBD is known as the Parramatta Justice Precinct and houses the corporate headquarters of the Department of Communities and Justice. Other legal offices include the Children's Court of New South Wales and the Sydney West Trial Courts, Legal Aid Commission of NSW, Office of Trustee and Guardian (formerly the Office of the Protective Commissioner), NSW Registry of Births, Deaths and Marriages, and the Office of the Director of Public Prosecutions. Nearby on Marsden Street is the Parramatta Courthouse and the Drug Court of New South Wales. The Garfield Barwick Commonwealth Law Courts Building (named in honour of Sir Garfield Barwick), houses courts of the Federal Magistrates Court and the Family Court of Australia. The NSW Government has also announced plans to secure up to 45,000 m^2 of new A-grade leased office space in Parramatta to relocate a further 4,000 workers from the Sydney CBD.[34]



Eclipse Tower

Parramatta Square (previously known as Civic Place) is a civic precinct located in the heart of the city, adjacent to Parramatta Town Hall. The Parramatta Square construction works included a redevelopment of the Parramatta Civic Centre, construction of a new culture and arts centre, and the construction of a new plaza. The designs of the first two projects, a 65-storey residential skyscraper and an office building were announced on 20 July 2012.[35] Concerns from CASA about infringements into controlled airspace from the height of the residential tower resulted in 8 Parramatta Square being turned into a 55-story commercial building, rather than the originally proposed 65-storey residential tower.[36] Parramatta Square became home to 3,000 National Australia Bank employees, relocated from the Sydney CBD.[37] Other notable commercial tenants who have established a presence at Parramatta Square include Westpac, Endeavour Energy, KPMG and Deloitte.[38]

Centenary Square, formerly known as Centenary Plaza, was created in 1975 when the then Parramatta City Council closed a section of the main street to traffic to create a pedestrian plaza. It

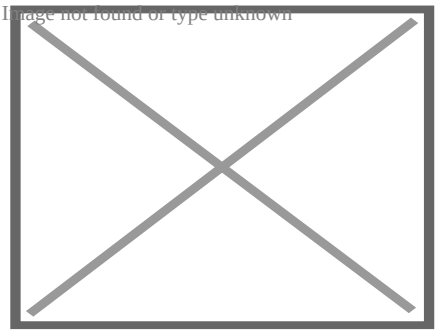
features an 1888 Centennial Memorial Fountain and adjoins the 1883 Parramatta Town Hall and St John's Cathedral.[39]

A hospital known as The Colonial Hospital was established in Parramatta in 1818.[40] This then became Parramatta District Hospital. Jeffery House was built in the 1940s. With the construction of the nearby Westmead Hospital complex public hospital services in Parramatta were reduced but after refurbishment Jeffery House again provides clinical health services. Nearby, Brislington House has had a long history with health services. It is the oldest colonial building in Parramatta, dating to 1821.[41] It became a doctors residence before being incorporated into the Parramatta Hospital in 1949.

Parramatta is a major business and commercial centre, and home to Westfield Parramatta, the tenth largest shopping centre in Australia.[42] Parramatta is also the major transport hub for Western Sydney, servicing trains and buses, as well as having a ferry wharf and future light rail and metro services. Major upgrades have occurred around Parramatta railway station with the creation of a new transport interchange, and the ongoing development of the Parramatta Square local government precinct.[43]

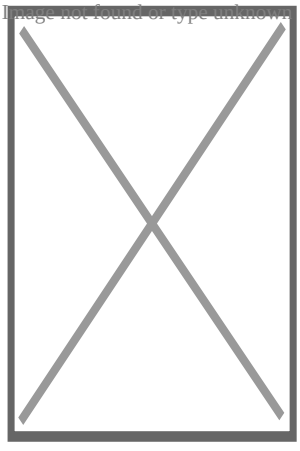
Places of worship

[edit]

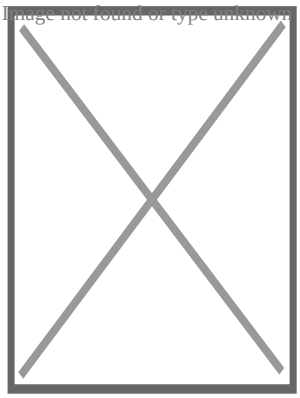


St John's Cathedral was completed in 1802

Church Street takes its name from St John's Cathedral (Anglican), which was built in 1802 and is the oldest church in Parramatta. While the present building is not the first on the site, the towers were built during the time of Governor Macquarie, and were based on those of the church at Reculver, England, at the suggestion of his wife, Elizabeth.[44] The historic St John's Cemetery is located nearby on O'Connell Street.[45]



St Patrick's Cathedral



Congregational Church (1871)

St Patrick's Cathedral (Roman Catholic) is one of the oldest Catholic churches in Australia. Construction commenced in 1836, but it wasn't officially complete until 1837. In 1854 a new church was commissioned, although the tower was not completed until 1880, with the spire following in 1883.[46] It was built on the site to meet the needs of a growing congregation. It was destroyed by fire in 1996, with only the stone walls remaining.

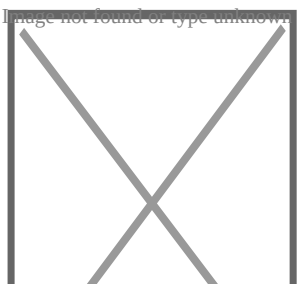
On 29 November 2003, the new St Patrick's Cathedral was dedicated.[47] The historic St Patrick's Cemetery is located in North Parramatta. The Uniting Church is represented by Leigh Memorial Church.[48] Parramatta Salvation Army is one of the oldest active Salvation Army Corps in Australia. Parramatta is also home to the Parramatta and Districts Synagogue, which services the Jewish community of western Sydney.[49]

The Greek Orthodox Parish and Community of St Ioannis (St John The Frontrunner) Greek Orthodox Church was established in Parramatta in May 1960 under the ecumenical jurisdiction of the Greek Orthodox Archdiocese of Australia to serve the predominantly emigrating Greek population of Greater Western Sydney. Originally, the liturgies were held in the hall of St John's Ambulance Brigade in Harris Park until the completion of the church in December 1966 located in Hassall Street Parramatta. The parish sold this property in 2014 and is now located at the corner of George and Purchase Streets.[50] The Parish Community of St Ioannis continues to serve over 5,000 Greek parishioners.[51]

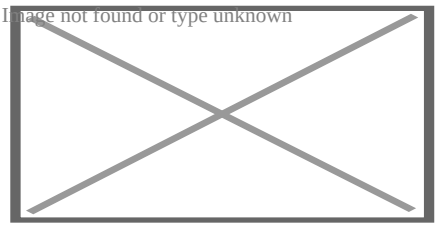
A Buddhist temple is located in Cowper Street, Parramatta.[52] Parramatta's Mosque is in an apartment building on Marsden Street, Parramatta.[53] The district is served by BAPS Swaminarayan Hindu temple located on Eleanor St, Rosehill,[54] and a Murugan Hindu temple in Mays Hill, off Great Western Highway.[55]

Parks

[edit]



Victorian Gazebo at the Prince Alfred Square



The Old Government House is a major site of significance in Parramatta Park

Parramatta Park is a large park adjacent to Western Sydney Stadium that is a popular venue for walking, jogging and bike riding. It was formerly the Governor's Domain, being land set aside for the Governor to supply his farming needs, until it was gazetted as a public park in 1858.[56] As the Governor's Domain, the grounds were considerably larger than the current 85 hectare Parramatta Park, extending from Parramatta Road in the south as evident by a small gatehouse adjacent to Parramatta High School. For a time Parramatta Park housed a zoo[57] until 1951 when the animals were transferred to Taronga Zoo.

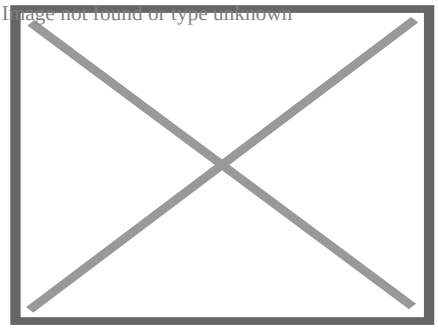
Parramatta is known as the 'River City' as the Parramatta River flows through the Parramatta CBD.[58] Its foreshore features a playground, seating, picnic tables and pathways that are increasingly popular with residents, visitors and CBD workers.[59]

Prince Alfred Square is a Victorian era park located within the CBD on the northern side of the Parramatta River. It is one of the oldest public parks in New South Wales with trees dating from c. 1869 . Prior to being a public park, it was the site of Parramatta's second gaol from 1804 until 1841 and the first female factory in Australia between 1804 and 1821.

Transport

[edit]

In contrast to the high level of car dependency throughout Sydney, a greater proportion of Parramatta's workers travelled to work on public transport (45.2%) than by car (36.2%) in 2016.[60]



Parramatta railway station

Rail

[edit]

Heavy rail

[edit]

Parramatta railway station is served by Sydney Trains' Cumberland Line, Leppington & Inner West Line and North Shore & Western Line services.[61] NSW TrainLink operates intercity services on the Blue Mountains Line as well as services to rural New South Wales. The station was originally opened in 1855, located in what is now Granville, and known as Parramatta Junction. The station was moved to its current location and opened on 4 July 1860, five years after the first railway line in Sydney was opened, running from Sydney to Parramatta Junction.[62] It was upgraded in the 2000s, with work beginning in late 2003 and the new interchange opening on 19 February 2006.[63]

Light rail

[edit]
Main article: Parramatta Light Rail

The light rail Westmead & Carlingford Line runs from Westmead to Carlingford via the Parramatta city centre. A future branch will run to Sydney Olympic Park.[64]

Metro

[edit]
Main article: Sydney Metro West

The under construction Sydney Metro West will be a metro line run between the Sydney central business district and Westmead. Announced in 2016,[65] the line is set to open in 2032 with a station in Parramatta.[66]

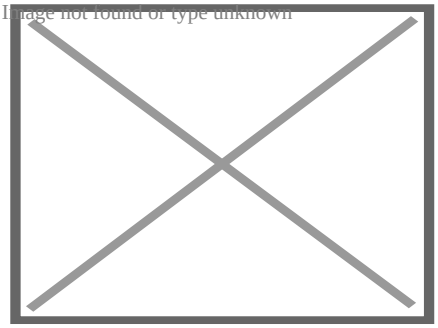
Bus

[edit]

Parramatta is also serviced by a major bus interchange located on the south eastern side of the railway station. The interchange is served by buses utilising the North-West T-way to Rouse Hill and the Liverpool–Parramatta T-way to Liverpool. Parramatta is also serviced by one high frequency Metrobus service:

- M91 – Parramatta to Hurstville via Granville, Bankstown and Peakhurst

A free bus Route 900 is operated by Transit Systems in conjunction with the state government. Route 900 circles Parramatta CBD.[67] A free bus also links Western Sydney Stadium to Parramatta railway station during major sporting events.



Parramatta ferry wharf

Ferry

[edit]

The Parramatta ferry wharf is at the Charles Street Weir, which divides the tidal saltwater from the freshwater of the upper river, on the eastern boundary of the Central Business District. The wharf is the westernmost destination of Sydney Ferries' Parramatta River ferry services.[68]

Road

[edit]

Parramatta Road has always been an important thoroughfare for Sydney from its earliest days. From Parramatta the major western road for the state is the Great Western Highway. The M4 Western Motorway, running parallel to the Great Western Highway has taken much of the traffic away from these roads, with entrance and exit ramps close to Parramatta.

James Ruse Drive serves as a partial ring-road circling around the eastern part of Parramatta to join with the Cumberland Highway to the north west of the city.

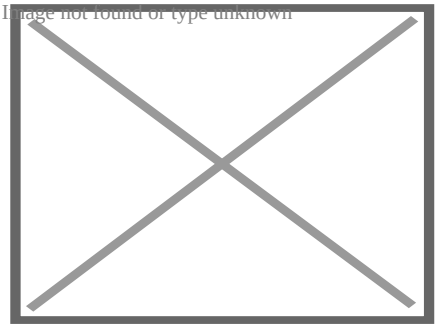
The main north-south route through Parramatta is Church Street. To the north it becomes Windsor Road, and to the south it becomes Woodville Road.

Demographics

[edit]

Historical population

Year	Pop.	±%
2001	17,982	—
2006	18,448	+2.6%
2011	19,745	+7.0%
2016	25,798	+30.7%
2021	30,211	+17.1%



Parramatta Town Hall in 2023

According to the 2016 census conducted by the Australian Bureau of Statistics, the suburb of Parramatta had a population of 30,211. Of these:[69]

Ethnic diversity

The most common country of birth in Parramatta is India representing 30.9% of the population, outnumbering Australian born residents at 24.8%. The next most common are China 8.9%, Nepal 5.5%, Philippines 2.5% and Iran 1.3%. However, only 6.8% identify their ancestry as Australian; the other common self-identified ancestries were Indian 27.3%, Chinese 15.3%, English 8.5% and Nepali 5.5%. About one quarter (24.4%) of people spoke English at home; other languages spoken at home included Hindi 10.4%, Mandarin 8.8%, Nepali 5.3%, Tamil 5.0% and Telugu 4.3%.

Religion

This question is optional in the Census. Of the people who answered it, the most common response was Hinduism 33.6%; the next most common responses were "No Religion" 21.6%, Catholic 12.1%, Not stated 7.7% and Islam 7.5%.

Age distribution

Parramatta has an over-representation of young adults when compared to the country as a whole. Parramatta residents' median age was 32 years, compared to the national median of 38. Children aged under 15 years made up 16.3% of the population (national average is 18.2%) and people aged 65 years and over made up 6.6% of the population (national average is 17.2%).

Income

The average weekly household income was $2,092, compared to the national average of $1,746.

Housing

The majority of dwellings in Parramatta (85.6%) were flats, units or apartments; 7.7% were separate houses, and 5.7% were semi-detached (mostly townhouses). The average household size was 2.4 people. In 2021, 2.2% of households were public housing, compared to 6.3% in 2016.[70]

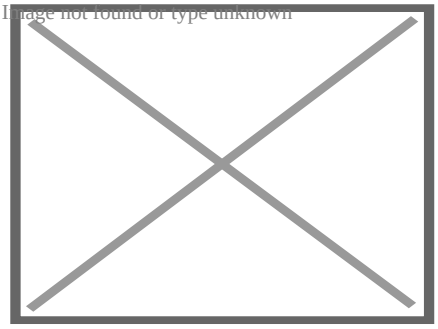
Notable residents

[edit]

- Keith Agget (1931–2017), rugby league player
- Bernie Banton (1946–2007), builder and social justice campaigner
- Richie Benaud (1930–2015), cricketer and commentator
- Allan Cunningham (1791–1839), explorer and botanist
- Greg Dyer (born 1959), cricketer
- Gerry Hazlitt (1888–1915), cricketer
- Paul Hogan (born 1939), comedian and actor
- Harry Hopman (1906–1985), tennis player
- David Lennox (1788–1873), colonial bridge builder
- John Lewin (1770–1819), first professional artist in New South Wales
- Bruce Mann (1926–2007), rugby league player
- George McIver (1859–1945), science fiction writer
- Rev. Samuel Marsden (1765–1838), known as the "flogging parson"
- Mary Cover Hassall (1799–1825), Methodist missionary to Tonga Island
- Dowell Philip O'Reilly (1865–1923), poet and politician
- Todd Payten (born 1979), rugby league player and coach
- "Jock" Ross (born 1943), outlaw biker.
- Nora Kate Weston (1880-1965), artisan
- J. C. Wharton (1853–1929), editor of *Parramatta Times* (defunct) and a local history[71]

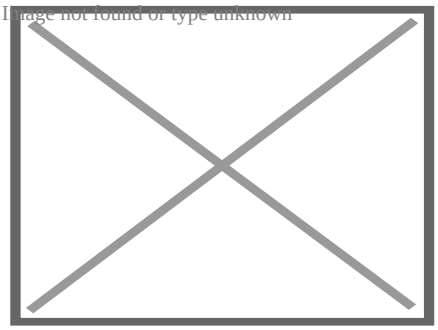
Education

[edit]



Macarthur Girls High School

Parramatta is home to several primary and secondary schools. Arthur Phillip High School was established in 1960 in its own right, in buildings which had been used continuously as a school since 1875 is the oldest continuously operating public school in Parramatta. Parramatta High School was the first coeducational school in the Sydney metropolitan area established in 1913. Our Lady of Mercy College is one of the oldest Catholic schools in Australia. Macarthur Girls High School is successor to an earlier school 'Parramatta Commercial and Household Arts School'. Others schools include Parramatta Public School, Parramatta East Public School, Parramatta West Public School, and St Patrick's Primary Parramatta.



Old King's School

Several tertiary education facilities are also located within Parramatta. A University of New England study centre and two Western Sydney University campuses are situated in Parramatta. The Western Sydney University Parramatta Campus consists of two sites: Parramatta South (the primary site) which occupies the site of the historic Female Orphan School[72] and Parramatta North (the secondary site) which includes the adjacent Western Sydney University Village Parramatta (formerly UWS Village Parramatta) an on campus student village accommodation. Whereby, the flagship Parramatta City Campus Precinct consists of two buildings: the Engineering Innovation Hub located at 6 Hassall Street and the Peter Shergold Building located at 1 Parramatta Square (169 Macquarie Street).[73] Alphacrucis University College is a Christian liberal arts college with a campus in Parramatta located at 30 Cowper Street.[74] The University of Sydney has also announced that it intends to establish a new campus in Parramatta.[75]

Media

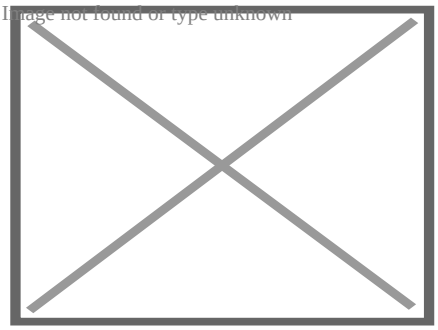
[edit]

The *Parramatta Advertiser* is the local newspaper serving Parramatta and surrounding suburbs.

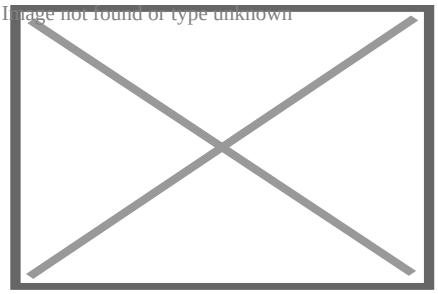
On 16 March 2020, the Australian Broadcasting Corporation opened a new Western Sydney newsroom in Horwood Place at Parramatta incorporating space for 12 staff and news production equipment with the capacity to broadcast live radio programs.[76] According to the ABC, the opening formed part of its strategic goal to improve its presence in outer metropolitan areas.[76] Additionally, the ABC announced on 16 June 2021 its intention to relocate approximately 300 employees to Parramatta, which is part of a five-year plan which aims to have 75% of its content makers based away from the network's Ultimo headquarters by 2025.[77][78]

Culture and sport

[edit]



CommBank Stadium



Various events are held on the Parramatta River

As the centre of the City of Parramatta, as well as the centre and second largest business district of Sydney, Parramatta hosts many festivals and events.[79] Riverside Theatres is a performing arts centre located on the northern bank of Parramatta River. The city hosts the following events:

- January – Sydney Festival and Australia Day[80]
- February – Lunar New Year and Tropfest[81]
- April – Anzac Day
- July – Winterlight and Burramatta Day (Naidoc)
- October – Parramasala and Parramatta Lanes[82]
- November – Loy Krathong, Christmas in Parramatta and Foundation Day
- December – New Year's Eve

Parramatta Park contains Old Government House and thus Parramatta was once the capital of the colony of New South Wales until Governors returned to residing in Sydney in 1846.[83] Another feature is the natural amphitheatre located on one of the bends of the river, named by Governor Philip as "the Crescent", which is used to stage concerts. It is home to the Dairy Cottage, built from 1798 to 1805, originally a single-room cottage and is one of the earliest surviving cottages in Australia.

The remains of Governor Brisbane's private astronomical observatory, constructed in 1822, are visible. Astronomers who worked at the observatory, discovering thousands of new stars and deep sky objects, include James Dunlop and Carl Rümker. In 1822, the architect S. L. Harris designed the Bath House for Governor Brisbane and built it in 1823. Water was pumped to the building

through lead pipes from the river. In 1886, it was converted into a pavilion.[84]

Cultural events

[edit]

- The Rosehill Race Course holds various race meets throughout the year, including: Derby Day, Golden Rose Day, and Rosehill Gardens Race Day.
- The Parramatta Farmers Markets[85] occurs every Friday, and has local produce.

Sporting teams

[edit]

Parramatta is the home of several professional sports teams. These teams include the Parramatta Eels of the National Rugby League and Western Sydney Wanderers of the A-League. Both teams formerly played matches at Parramatta Stadium that has since been demolished, and replaced with the 30,000-seat Western Sydney Stadium.[86] Parramatta Stadium was also home to the now dissolved Sydney Wave of the former Australian Baseball League and Parramatta Power of the former National Soccer League. The newly built Bankwest Stadium opened its gates for the community on 14 April 2019 with free entry for all fans. Located on O'Connell Street, the stadium is in proximity of the Parramatta CBD. The opening sporting event was the 2019 Round 6 NRL clash between Western Sydney rivals the Parramatta Eels and Wests Tigers on Easter Monday 22 April. The Eels won the match by a score of 51–6. It is being predicted that the new stadium will boost Western Sydney economy by contributing millions of dollars to it.[87]

Entertainment

[edit]

Duran Duran's "Union of the Snake" music video with Russell Mulcahy was filmed in 1983 at Parramatta using 35mm film.[88]

The 2013 superhero film *The Wolverine* used the intersection of George Street and Smith Street as a filming location to depict Tokyo, Japan.[89]

Heritage listings

[edit]

Parramatta has a number of heritage-listed sites, including:

- 1 and 3 Barrack Lane: Warders Cottages[90]
- 39 Campbell Street: Lennox House[91]
- 195 Church Street: St John's Cathedral[92]
- 349–351 (adj) Church Street: Lennox Bridge[93]
- 353 Church Street: Prince Alfred Square[94]
- 541 Church Street: Oddfellows Arms Inn[95]
- Fleet Street: Parramatta Female Factory and Institutions Precinct[96][97]
- 10 George Street: Brislington[98]
- 65–69 George Street: Roxy Theatre[99]
- 85 George Street: Perth House[100]
- 88–92 George Street: 88–92 George Street[101]
- 182 George Street: Harrisford[102]
- Great Western railway: Parramatta railway station[103]
- Horwood Place: Redcoats Mess House[104]
- Linden House, 2 Smith Street: New South Wales Lancers Memorial Museum Collection[105]
- 1 Marist Place: Murphy House[106]
- 45 Macquarie Street: Parramatta Archaeological Site[107]
- Marsden Street: Parramatta Hospital Archaeological Site[108]
- 8 Melville Street: Macarthur House[109]
- O'Connell Street: Old King's School[110][111]
- O'Connell Street: Old Government House[112]
- 1 O'Connell Street: St John's Anglican Cemetery[113]
- 12, 14, 16 O'Connell Street: Travellers Rest Inn[114]
- 25 O'Connell Street: Avondale[115]
- 40–42 O'Connell Street: Roseneath Cottage[116]
- Corner O'Connell Street and Dunlop Street, North Parramatta: Parramatta Correctional Centre[117]
- 54 Sorrell Street: Endrim[118]
- 43a Thomas Street: Broughton House[119]

See also

[edit]

- List of tallest buildings in Parramatta
- Parramatta cloth
- Story Factory

References

[edit]

1. ^ *Australian Bureau of Statistics (28 June 2022). "Parramatta (Suburbs and Localities)". 2021 Census QuickStats. Retrieved 26 July 2022.*

2. ^ **a b c** *"Parramatta (suburb)". Geographical Names Register (GNR) of NSW. Geographical Names Board of New South Wales. Retrieved 2 October 2008.*
3. ^ *"Parramatta". New South Wales Electoral Commission. Retrieved 23 November 2019.*
4. ^ *"Baulkham Hills". New South Wales Electoral Commission. Retrieved 23 November 2019.*
5. ^ *"Granville". New South Wales Electoral Commission. Retrieved 23 November 2019.*
6. ^ *"Parramatta". Australian Electoral Commission. 19 October 2007. Archived from the original on 26 February 2009. Retrieved 2 October 2008.*
7. ^ *"Parramatta: Suburb Guide. Highlighting new developments in Sydney's second CBD". Urban. 5 August 2019. Retrieved 5 May 2020.*
8. ^ *"Introducing Sydney's second CBD: Skyscrapers of steel and glass set to transform city". 7NEWS.com.au. 19 November 2019. Retrieved 5 May 2020.*
9. ^ *"Greater Cities Commission Act 2022 No 8". legislation.nsw.gov.au. 4 November 2022. Retrieved 29 June 2023.*
10. ^ *"Government". atparramatta.com.*
11. ^ *"Visitor Strategy for Parramatta 2011–2016" (PDF). City of Parramatta. Archived from the original (PDF) on 10 March 2016. Retrieved 31 July 2013.*
12. ^ **a b** *"Hitting the ground running – Sydney Water's Parramatta office reaches ground level". sydneywater.com.au. Archived from the original on 22 July 2008.*
13. ^ *Macey, Richard (2007). "Settlers' history rewritten: go back 30,000 years". The Sydney Morning Herald. Retrieved 5 July 2014.*
14. ^ *"Daraug Language". darug.org.au. Archived from the original on 2 May 2013.*
15. ^ "Man of Honour – John Macarthur", Michael Duffy, Macmillan 2003, p. 81 ff
16. ^ *Smith, Keith Vincent (2005). Wallumedegal: an Aboriginal History of Ryde (PDF). Ryde: City of Ryde.*
17. ^ *"The romance of Australian place names". The Australian Women's Weekly. National Library of Australia. 27 May 1964. p. 59. Retrieved 14 October 2013.*
18. ^ *E. R. Pretyman (7 July 1970). "SOME NOTES ON THE LIFE AND TIMES OF CAPTAIN JAMES KELLY" (PDF). Retrieved 15 March 2018.*
19. ^ Flynn 1997, p 28
20. ^ *Dale, David (16 February 2008). "WHO WE ARE: The man who nearly changed everything". The Sun Herald. Archived from the original on 23 June 2012. Retrieved 25 April 2018.*
21. ^ J Henniker Heaton, *Australian Dictionary of Dates and Men of the Time*, Sydney, 1873
22. ^ *""HERALD" SATURDAY MAGAZINE". The Sydney Morning Herald. National Library of Australia. 26 September 1953. p. 7. Retrieved 30 June 2014.*
23. ^ *Norman, Heidi (2015). "Parramatta and Black Town Native Institutions". Dictionary of Sydney. Dictionary of Sydney Trust. Retrieved 8 February 2016.*
24. ^ *"Daily Maximum Temperature – 066062". bom.gov.au. Bureau of Meteorology. Retrieved 3 February 2016.*
25. ^ *"Daily Maximum Temperature – 066124". bom.gov.au. Bureau of Meteorology. Retrieved 3 February 2016.*
26. ^ *"Which Australian city has the weather that suits you best? Find out with our interactive". The Guardian. 23 May 2023. Retrieved 8 January 2024.*
27. ^ Context statement for the Sydney Basin bioregion – Climate by Bioregional Assessments from the Australian Government. Retrieved 11 April 2021.

28. ^ *"Australia's new seasonal rainfall zones". ABC News. 25 February 2016. Retrieved 11 April 2021.*
29. ^ *"The climate of Sydney, Australia". www-das.uwyo.edu.*
30. ^ Sharples, J.J., McRae, R.H.D., Weber, R.O., Mills, G.A. (2009) Foehn-like winds and fire danger anomalies in southeastern Australia. Proceedings of the 18th IMACS World Congress and MODSIM09. 13–17 July, Cairns
31. ^ *"NSW NON ALPINE SNOW FALL EVENTS 1808 TO 2017". blackheathweather.com.*
32. ^ *"Climate statistics: PARRAMATTA NORTH (MASONS DRIVE)". Bureau of Meteorology. Retrieved 19 November 2020.*
33. ^ *"Auto Alley". Discover Parramatta.*
34. ^ *"Government to expand Parramatta office footprint". Department of Finance, Services and Innovation. NSW Government. Retrieved 9 November 2018.*
35. ^ *"Parramatta's urban renewal relaunched". Parramatta Sun. 20 July 2012. Archived from the original on 30 December 2012. Retrieved 27 July 2012.*
36. ^ *"Construction & Architecture News". Architecture & Design. Retrieved 3 May 2024.*
37. ^ *"NAB moves 3000 bankers into Parramatta Square". The Daily Telegraph. Retrieved 9 November 2018.*
38. ^ *"Commercial Directory for Each Tower – Parramatta Square". www.psq.com.au. Retrieved 3 May 2024.*
39. ^ *"About Centenary Square". Parramatta Heritage Centre. City of Parramatta Council. Retrieved 9 November 2018.*
40. ^ *"Jeffery House". Archived from the original on 26 September 2011.*
41. ^ *"Brislington House".*
42. ^ *"Westfield Parramatta". Westfield Group. 2017. Retrieved 18 December 2017.*
43. ^ *"Welcome to Parramatta NSW Australia". cityofparramatta.com. Archived from the original on 17 May 2014. Retrieved 13 July 2014.*
44. ^ *"St John's Anglican Cathedral". Heritage Branch. Archived from the original on 9 June 2011 . Retrieved 15 July 2010.* See also Reculver.
45. ^ *"St Johns Cemetery". Discover Parramatta.*
46. ^ *"St Patrick's Catholic Cathedral: Parramatta". ohta.org.au. Retrieved 13 July 2014.*
47. ^ *"History". St Patrick's Cathedral Parish Parramatta. Archived from the original on 31 January 2008. Retrieved 11 January 2008.*
48. ^ *"Leigh Memorial Church". Parramatta Mission. Retrieved 18 December 2017.*
49. ^ *"Parramatta Synagogue". Parramatta Synagogue. Retrieved 18 December 2017.*
50. ^ *"Contact Us". Greek Orthodox Parish & Community of "St Ioannis" Parramatta.*
51. ^ *"Home". Greek Orthodox Parish & Community of "St Ioannis" Parramatta.*
52. ^ *"Nan Tien Temple, Australia". Nan Tien Temple. Archived from the original on 8 August 2018. Retrieved 30 April 2020.*
53. ^ *"Parramatta Mosque". Archived from the original on 10 August 2011. Retrieved 26 August 2011.*
54. ^ *"-- B A P S Swaminarayan Sanstha --". swaminarayan.org.*
55. ^ *"Home – Sydney Murugan Temple". sydneymurugan.org.au.*
56. ^ *"Celebrating 160 Years". Parramatta Park. Retrieved 9 November 2018.*
57. ^ *"Wild things: The history of Parramatta Zoo". 23 October 2017.*
58. ^ *"Central River City vision". Greater Sydney Commission. Retrieved 9 November 2018.*

59. ^ *"City River Foreshore". City of Parramatta Council. Retrieved 9 November 2018.*
60. ^ *Australian Bureau of Statistics (27 June 2017). "Parramatta (State Suburb)". 2016 Census QuickStats. Retrieved 25 October 2018.* Image not found or type unknown Edit this at Wikidata
61. ^ *"Station Details – Parramatta". Transport for NSW. Retrieved 31 May 2018.*
62. ^ *Bozier, Rolfe. "New South Wales Railways:Parramatta Railway Station". Retrieved 30 January 2008.*
63. ^ *"Parramatta Transport Interchange – opening 19 February". CityRail. 14 February 2006. Archived from the original on 20 December 2007. Retrieved 30 January 2008.*
64. ^ *"'Moment in history': Commuters board first Parramatta light rail service". ABC News. 19 December 2024. Retrieved 22 December 2024.*
65. ^ *"Sydney Metro West: a new railway, more trains for Western Sydney". Transport for NSW. 14 November 2016.*
66. ^ *Rose, Tamsin; Visontay, Elias; McLeod, Catie (6 December 2023). "This article is more than 2 months old Rosehill racecourse could be turned into 25,000 homes in Metro West revamp". The Guardian. Retrieved 4 March 2024.*
67. ^ *"Transdev NSW route 900" (PDF). Transdev NSW. Retrieved 3 October 2019.*
68. ^ *"F3 Parramatta River ferry timetable". Transport for NSW.*
69. ^ *Australian Bureau of Statistics (28 June 2022). "Parramatta (State Suburb)". 2021 Census QuickStats. Retrieved 4 October 2024.* Image not found or type unknown Edit this at Wikidata
70. ^ *"Crime and Disadvantage in Parramatta". Microburbs. Retrieved 14 May 2024.*
71. ^ *The jubilee history of Parramatta in commemoration of the first half-century of municipal government, 1861–1911, Parramatta T.D. Little and R.S. Richardson, 1911, retrieved 10 June 2016* Available as .pdf-based CD-ROM
72. ^ *"Welcome to the Female Orphan School". Western Sydney University. Retrieved 16 November 2024.*
73. ^ *"Parramatta City Campus Precinct". Western Sydney University. 23 July 2024. Retrieved 16 November 2024.*
74. ^ *"Welcome to AC Sydney". Alphacrucis University College. Retrieved 16 November 2024.*
75. ^ *"Parramatta-Westmead campus proposal takes shape". University of Sydney. Retrieved 24 January 2019.*
76. ^ ***a b*** *"New ABC Western Sydney newsroom opens for business". About the ABC. Australian Broadcasting Corporation. 13 March 2020. Retrieved 16 June 2021.*
77. ^ *Samios, Zoe (16 June 2021). "ABC to relocate 300 Ultimo staff to Parramatta". The Sydney Morning Herald. Nine Entertainment. Retrieved 16 June 2021.*
78. ^ *"ABC announces 300 staff will move from Ultimo headquarters to Parramatta in Western Sydney". ABC News. Australian Broadcasting Corporation. 16 June 2021. Retrieved 16 June 2021.*
79. ^ *"Parramatta Events – About". Discover Parramatta.*
80. ^ *"Home". Sydney Festival.*
81. ^ *"Home". Tropfest.*
82. ^ *"About Parramasala Festival". Parramasala. Retrieved 31 August 2015.*
83. ^ *"Old Government House". oldgovernmenthouse.com.au. Archived from the original on 10 September 2012.*
84. ^ *"Plone". ppt.nsw.gov.au. Archived from the original on 12 February 2014. Retrieved 16 September 2007.*

85. ^ *"Parramatta Farmers' Markets"*. *TimeOut Sydney.*
86. ^ *NSW, Infrastructure. "Infrastructure NSW : Western Sydney Stadium". Infrastructure NSW. Retrieved 25 October 2018.*
87. ^ *"Sydney Business Chamber: Bankwest Stadium kicks goals for Western Sydney economy" . Bankwest Stadium.*
88. ^ *Duran Duran interview Countdown 1, 7 February 2011, retrieved 5 March 2024*
89. ^ *"Filming Locations for The Wolverine (2013), in New South Wales and Japan". The Worldwide Guide to Movie Locations. Retrieved 5 March 2024.*
90. ^ *"Warders Cottages". New South Wales State Heritage Register. Department of Planning & Environment. H00709. Retrieved 18 May 2018.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
91. ^ *"Lennox House". New South Wales State Heritage Register. Department of Planning & Environment. H00751. Retrieved 18 May 2018.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
92. ^ *"St. John's Anglican Cathedral". New South Wales State Heritage Register. Department of Planning & Environment. H01805. Retrieved 18 May 2018.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
93. ^ *"Lennox Bridge". New South Wales State Heritage Register. Department of Planning & Environment. H00750. Retrieved 18 May 2018.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
94. ^ *"Prince Alfred Square and potential archaeological site". New South Wales State Heritage Register. Department of Planning & Environment. H01997. Retrieved 18 May 2018.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
95. ^ *"Oddfellows Arms Inn". New South Wales State Heritage Register. Department of Planning & Environment. H00276. Retrieved 18 May 2018.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
96. ^ *"Norma Parker Correctional Centre". New South Wales State Heritage Register. Department of Planning & Environment. H00811. Retrieved 18 May 2018.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
97. ^ *"Cumberland District Hospital Group". New South Wales State Heritage Register. Department of Planning & Environment. H00820. Retrieved 18 May 2018.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
98. ^ *"Parramatta District Hospital – Brislington and Landscape". New South Wales State Heritage Register. Department of Planning & Environment. H00059. Retrieved 18 May 2018.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
99. ^ *"Roxy Theatre". New South Wales State Heritage Register. Department of Planning & Environment. H00711. Retrieved 18 May 2018.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
100. ^ *"Perth House and Stables". New South Wales State Heritage Register. Department of Planning & Environment. H00155. Retrieved 18 May 2018.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.

101. ^ *"Shop and office". New South Wales State Heritage Register. Department of Planning & Environment. H00278. Retrieved 18 May 2018.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
102. ^ *"Harrisford". New South Wales State Heritage Register. Department of Planning & Environment. H00248. Retrieved 18 May 2018.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
103. ^ *"Parramatta Railway Station". New South Wales State Heritage Register. Department of Planning & Environment. H00696. Retrieved 18 May 2018.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
104. ^ *"Redcoats Mess House". New South Wales State Heritage Register. Department of Planning & Environment. H00218. Retrieved 18 May 2018.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
105. ^ *"1st/15th Royal NSW Lancers Memorial Museum Collection". New South Wales State Heritage Register. Department of Planning & Environment. H01824. Retrieved 18 May 2018.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
106. ^ *"Murphys House". New South Wales State Heritage Register. Department of Planning & Environment. H00238. Retrieved 18 May 2018.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
107. ^ *"Archaeological Site and Associated Artefacts". New South Wales State Heritage Register. Department of Planning & Environment. H02027. Retrieved 18 February 2020.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
108. ^ *"Parramatta District Hospital – Archaeology". New South Wales State Heritage Register. Department of Planning & Environment. H00828. Retrieved 18 May 2018.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
109. ^ *"Macarthur House". New South Wales State Heritage Register. Department of Planning & Environment. H00050. Retrieved 18 May 2018.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
110. ^ *"Marsden Rehabilitation Centre Group". New South Wales State Heritage Register. Department of Planning & Environment. H00826. Retrieved 18 May 2018.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
111. ^ Marsden Rehabilitation Centre [former King's School] : conservation plan City of Parramatta Library
112. ^ *"Parramatta Park and Old Government House". New South Wales State Heritage Register. Department of Planning & Environment. H00596. Retrieved 18 May 2018.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
113. ^ *"St. John's Anglican Cemetery". New South Wales State Heritage Register. Department of Planning & Environment. H00049. Retrieved 18 May 2018.* Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
114. ^ *"Travellers Rest Inn Group". New South Wales State Heritage Register. Department of Planning & Environment. H00748. Retrieved 18 May 2018.* Text is licensed by State

of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.

115. ^ *"Avondale". New South Wales State Heritage Register. Department of Planning & Environment. H00239. Retrieved 18 May 2018.* Image not found or type unknown Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
116. ^ *"Roseneath Cottage". New South Wales State Heritage Register. Department of Planning & Environment. H00042. Retrieved 18 May 2018.* Image not found or type unknown Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
117. ^ *"Parramatta Correctional Centre". New South Wales State Heritage Register. Department of Planning & Environment. H00812. Retrieved 18 May 2018.* Image not found or type unknown Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
118. ^ *"Endrim". New South Wales State Heritage Register. Department of Planning & Environment. H00379. Retrieved 18 May 2018.* Image not found or type unknown Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.
119. ^ *"Broughton House". New South Wales State Heritage Register. Department of Planning & Environment. H01302. Retrieved 18 May 2018.* Image not found or type unknown Text is licensed by State of New South Wales (Department of Planning and Environment) under CC BY 4.0 licence.

External links

[edit]

Image not found or type unknown

Wikivoyage has a travel guide for ***Parramatta***.

Image not found or type unknown

Wikimedia Commons has media related to ***Parramatta, New South Wales***.

Image not found or type unknown

Wikisource has the text of the 1911 *Encyclopædia Britannica* article "**Parramatta**".

- Parramatta City Council website
- Parramatta Park website
- Parramatta & District Historical Society Inc website

Dictionary of Sydney entries

[edit]

- *"Parramatta". Dictionary of Sydney. Retrieved 28 September 2015.* [CC-By-SA]

- *Chris Levins – Parramatta Park Trust (2010). "Parramatta Park". Dictionary of Sydney. Retrieved 28 September 2015.* [CC-By-SA]
- *Michaela Ann Cameron (2015). "Brislington". Dictionary of Sydney. Retrieved 2 October 2015 .* [CC-By-SA]
- *Michaela Ann Cameron (2015). "The Crescent". Dictionary of Sydney. Retrieved 6 October 2015.* [CC-By-SA]
- *Michaela Ann Cameron (2015). "Travellers' Rest Inn Parramatta". Dictionary of Sydney. Dictionary of Sydney Trust. Retrieved 11 October 2015.*[CC-By-SA]
- *Michaela Ann Cameron (2015). "Roseneath Cottage". Dictionary of Sydney. Dictionary of Sydney Trust. Retrieved 16 October 2015.*[CC-By-SA]

- **v**
- **t**
- **e**

Suburbs and localities within the City of Parramatta, Western Sydney, Sydney

- Camellia
- Carlingford
- Clyde
- Constitution Hill
- Dundas
- Dundas Valley
- Eastwood
- Epping
- Ermington
- Granville
- Harris Park
- Model Farms
- Newington
- Northmead
- North Rocks
- Oatlands
- Old Toongabbie
- Parramatta
- North Parramatta
- Pendle Hill
- Rosehill
- Rydalmere
- Seven Hills
- Silverwater
- South Granville
- Sydney Olympic Park
- Telopea
- Toongabbie
- Wentworth Point
- Wentworthville
- Winston Hills
- Westmead

List of Sydney suburbs

- **v**
- **t**
- **e**

Geography of Parramatta River

Sources

- *Toongabbie Creek*
- *Darling Mills Creek*

Tributaries: left	○ *Vineyard Creek* ○ *Subiaco Creek* ○ *Archer Creek* ○ *Smalls Creek* ○ *Charity Creek* ○ Lane Cove River
Tributaries: right	○ Duck River ○ *Haslams Creek* ○ *Powells Creek* ○ *Iron Cove Creek* ○ *Hawthorne Canal*
Islands	○ Rodd Island ○ Snapper Island ○ Spectacle Island ○ Cockatoo Island
Parramatta River ferry services	○ Parramatta ○ Rydalmere ○ Sydney Olympic Park ○ Meadowbank ○ Kissing Point ○ Cabarita ○ Abbotsford ○ Chiswick ○ Huntleys Point

River crossings	○ Rings Bridge ○ Bernie Banton Bridge ○ Lennox Bridge ○ Barry Wilde Bridge ○ Elizabeth Street Footbridge ○ Macarthur Bridge ○ Clyde-Carlingford railway bridge ○ Thackeray Bridge (footbridge) ○ Silverwater Bridge ○ James Ruse Drive bridge ○ John Whitton Bridge ○ Meadowbank Railway Bridge ○ Ryde Bridge ○ Mortlake Ferry ○ Gladesville Bridge
River inlets and bays	○ Homebush Bay ○ Kissing Point Bay ○ Morrisons Bay ○ Kendall Bay ○ Glades Bay ○ France Bay ○ Exile Bay ○ Canada Bay ○ Kings Bay ○ Hen and Chicken Bay ○ Looking Glass Bay ○ Abbotsford Bay ○ Wallumatta Bay ○ Five Dock Bay ○ Lukes Bay ○ Drummoyne Bay ○ Iron Cove

Suburbs: north

- North Parramatta
- Rydalmere
- Ermington
- Melrose Park
- Meadowbank
- Putney
- Tennyson Point
- Gladesville
- Henley
- Huntleys Point
- Huntleys Cove
- Hunters Hill
- Woolwich
- Greenwich

Suburbs: south

- Parramatta
- Camellia
- Silverwater
- Newington
- Wentworth Point
- Sydney Olympic Park
- Liberty Grove
- Rhodes
- Concord
- Mortlake
- Breakfast Point
- Cabarita
- Canada Bay
- Five Dock
- Wareemba
- Abbotsford
- Chiswick
- Drummoyne
- Russell Lea
- Rodd Point
- Haberfield
- Lilyfield
- Rozelle
- Birchgrove

- **v**
- **t**

- **e**

Convicts in Australia

- Assignment
- Australia Day
- Emancipation
- Female factories
- Freedom
- History of Australia (1788–1850)
- New Holland
- Women

Penal colonies

- Cockatoo Island
- Rosehill
- Sydney Cove
- Moreton Bay
- Redcliffe
- Maria Island
- Port Arthur
- Richmond
- Risdon Cove
- Macquarie Harbour (History)
- Norfolk Island (History)
- Saltwater River
- Sullivans Cove
- Western Australia

Events

- First Fleet (1788)
- Second Fleet (1789)
- Third Fleet (1791)
- *Lady Shore* mutiny (1797)
- Castle Hill Rebellion (1804)
- Rum Rebellion (1808)
- Capture of the brig *Emu* (1813)
- *Argo* disappearance (1814)
- Norfolk Island mutinies (1826–1846)
- *Cyprus* mutiny (1829)
- Bathurst Rebellion (1830)
- *Badger* escape (1833)
- *Frederick* escape (1834)
- Wreck of the *George III* (1835)
- Wreck of the *Hive* (1835)
- Wreck of the *Neva* (1835)
- Cooking Pot Uprising (1846)
- Catalpa rescue (1876)
- Anti-Transportation League

Convict ships

- First Fleet
- Second Fleet
- Third Fleet
- New South Wales
- Norfolk Island
- Tasmania
- Western Australia

Governors and commandants

- Arthur
- Bligh
- Bourke
- Brisbane
- Collins
- Darling
- Davey
- Denison
- Eardley-Wilmot
- Franklin
- Gipps
- Hunter
- Johnston
- King
- Logan
- Macquarie
- Paterson
- Phillip
- Sorell

Surgeons

- William Bland
- *Arthur Bowes Smyth*
- William Redfern
- *D'Arcy Wentworth*

Entrepreneurs

- Enoch Barratt
- Daniel Connor
- Daniel Cooper
- John Davies
- William Field
- William Hutchinson
- Mary Hyde
- Henry Kable
- Solomon Levey
- Simeon Lord
- Mary Reibey
- Robert Sidaway
- James Squire
- John Tawell
- Samuel Terry

Architects

- James Blackburn
- Francis Greenway

Bushrangers and escapees

- Charlotte Badger
- Matthew Brady
- Mary Bryant
- William Bryant
- William Buckley
- Moondyne Joe
- John Caesar
- Martin Cash
- William Chopin
- Michael Howe
- Lawrence Kavenagh
- John Mitchel
- Thomas Muir
- John Boyle O'Reilly
- Alexander Pearce
- William Westwood

Notable convicts and personnel

- Joseph Backler
- Thomas Bock
- Richard Browne
- Knud Bull
- Edmund Edgar

Popular culture	**Music**	○ Transportation ballads ○ "Botany Bay" ○ "Moreton Bay" ○ "Jim Jones at Botany Bay" ○ "Van Diemen's Land"
	Film	○ *For the Term of His Natural Life* (1908) ○ *The Assigned Servant* (1911) ○ *It Is Never Too Late to Mend* (1911) ○ *The Lady Outlaw* (1911) ○ *The Life of Rufus Dawes* (1911) ○ *The Mark of the Lash* (1911) ○ *One Hundred Years Ago* (1911) ○ *The Romantic Story of Margaret Catchpole* (1911) ○ *Sentenced for Life* (1911) ○ *Moondyne* (1913) ○ *Transported* (1913) ○ *The Tenth Straw* (1926) ○ *For the Term of His Natural Life* (1927) ○ *To New Shores* (1937) ○ *Red Sky at Morning* (1944) ○ *Under Capricorn* (1949) ○ *Botany Bay* (1953) ○ *Adam's Woman* (1970) ○ *Journey Among Women* (1977) ○ *The Last Confession of Alexander Pearce* (2008) ○ *Van Diemen's Land* (2009) ○ *The Nightingale* (2017)
	Television	○ *The Devil Makes Sunday* (1961) ○ *The Devil Makes Sunday* (1962) ○ *Against the Wind* (1978) ○ *Sara Dane* (1982) ○ *For the Term of His Natural Life* (1983) ○ *The Incredible Journey of Mary Bryant* (2005) ○ *Banished* (2015) ○ *The Secret River* (2015)
		○ Journals of the First Fleet ○ *It's Never Too Late to Mend* (1856) ○ *The Broad Arrow* (1859) ○ *Great Expectations* (1861) ○ *The Wild Goose* (1867) ○ *For the Term of His Natural Life* (1872) ○ *Moondyne* (1879) ○ *Bring Larks and Heroes* (1967)

Australian Convict Sites

- Brickendon Estate
- Cadmans Cottage
- Cascades Female Factory
- Coal Mines
- Commissariat Store, Brisbane
- Darlington Probation Station
- Elizabeth Farm
- Experiment Farm Cottage
- Fremantle Prison
- Great North Road
- Hyde Park Barracks
- Kingston and Arthur's Vale
- Lennox Bridge
- Old Government House
- Parramatta Female Factory
- Port Arthur
- Richmond Bridge
- Richmond Gaol
- Ross Female Factory
- The Old Windmill, Brisbane
- Vaucluse House
- Woolmers Estate

Authority control databases Image not found or type unknown **Edit this at Wikidata**

International

- VIAF

Geographic

- MusicBrainz area

About Domain name

This article is about domain names in the Internet. For other uses, see Domain (disambiguation).

Image not found or type unknown

An annotated example of a domain name

In the Internet, a **domain name** is a string that identifies a realm of administrative autonomy, authority or control. Domain names are often used to identify services provided through the Internet, such as websites, email services and more. Domain names are used in various networking contexts and for application-specific naming and addressing purposes. In general, a domain name identifies a network domain or an Internet Protocol (IP) resource, such as a personal computer used to access the Internet, or a server computer.

Domain names are formed by the rules and procedures of the Domain Name System (DNS). Any name registered in the DNS is a domain name. Domain names are organized in subordinate levels (*subdomains*) of the DNS root domain, which is nameless. The first-level set of domain names are the *top-level domains* (TLDs), including the *generic top-level domains* (gTLDs), such as the prominent domains com, info, net, edu, and org, and the *country code top-level domains* (ccTLDs). Below these top-level domains in the DNS hierarchy are the second-level and third-level domain names that are typically open for reservation by end-users who wish to connect local area networks to the Internet, create other publicly accessible Internet resources or run websites, such as "wikipedia.org". The registration of a second- or third-level domain name is usually administered by a domain name registrar who sell its services to the public.

A *fully qualified domain name* (FQDN) is a domain name that is completely specified with all labels in the hierarchy of the DNS, having no parts omitted. Traditionally a FQDN ends in a dot (**.**) to denote the top of the DNS tree.[1] Labels in the Domain Name System are case-insensitive, and may therefore be written in any desired capitalization method, but most commonly domain names are written in lowercase in technical contexts.[2] A *hostname* is a domain name that has at least one associated IP address.

Purpose

[edit]

Domain names serve to identify Internet resources, such as computers, networks, and services, with a text-based label that is easier to memorize than the numerical addresses used in the Internet protocols. A domain name may represent entire collections of such resources or individual instances. Individual Internet host computers use domain names as host identifiers, also called hostnames. The term *hostname* is also used for the leaf labels in the domain name system, usually without further subordinate domain name space. Hostnames appear as a component in Uniform Resource Locators (URLs) for Internet resources such as websites (e.g., en.wikipedia.org).

Domain names are also used as simple identification labels to indicate ownership or control of a resource. Such examples are the realm identifiers used in the Session Initiation Protocol (SIP), the Domain Keys used to verify DNS domains in e-mail systems, and in many other Uniform Resource Identifiers (URIs).

An important function of domain names is to provide easily recognizable and memorizable names to numerically addressed Internet resources. This abstraction allows any resource to be moved to a different physical location in the address topology of the network, globally or locally in an intranet

. Such a move usually requires changing the IP address of a resource and the corresponding translation of this IP address to and from its domain name.

Domain names are used to establish a unique identity. Organizations can choose a domain name that corresponds to their name, helping Internet users to reach them easily.

A generic domain is a name that defines a general category, rather than a specific or personal instance, for example, the name of an industry, rather than a company name. Some examples of generic names are *books.com*, *music.com*, and *travel.info*. Companies have created brands based on generic names, and such generic domain names may be valuable.[3]

Domain names are often simply referred to as *domains* and domain name registrants are frequently referred to as *domain owners*, although domain name registration with a registrar does not confer any legal ownership of the domain name, only an exclusive right of use for a particular duration of time. The use of domain names in commerce may subject them to trademark law.

History

[edit]
Main article: List of the oldest currently registered Internet domain names

The practice of using a simple memorable abstraction of a host's numerical address on a computer network dates back to the ARPANET era, before the advent of today's commercial Internet. In the early network, each computer on the network retrieved the hosts file (*host.txt*) from a computer at SRI (now SRI International),[4][5] which mapped computer hostnames to numerical addresses. The rapid growth of the network made it impossible to maintain a centrally organized hostname registry and in 1983 the Domain Name System was introduced on the ARPANET and published by the Internet Engineering Task Force as RFC 882 and RFC 883.

The following table shows the first five .com domains with the dates of their registration:[6]

Domain name	Registration date
symbolics.com	15 March 1985
bbn.com	24 April 1985
think.com	24 May 1985
mcc.com	11 July 1985
dec.com	30 September 1985

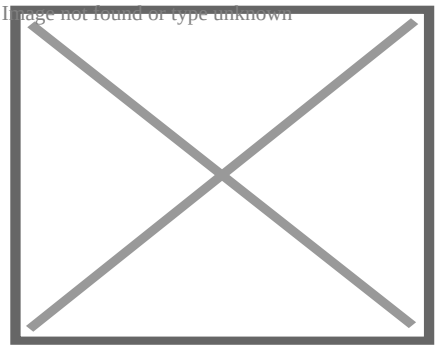
and the first five .edu domains:[7]

Domain name	Registration date
berkeley.edu	24 April 1985
cmu.edu	24 April 1985

purdue.edu	24 April 1985
rice.edu	24 April 1985
ucla.edu	24 April 1985

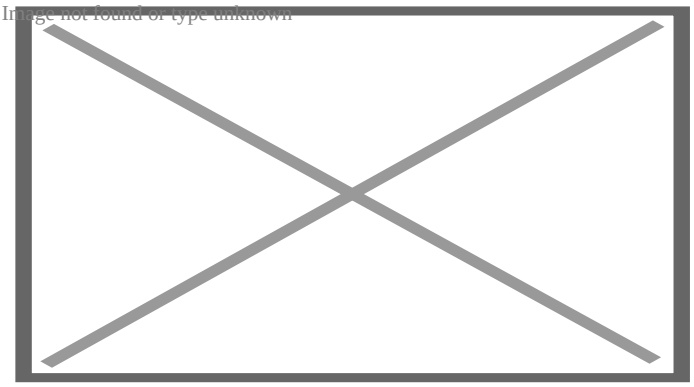
Domain name space

[edit]



The hierarchical domain name system, organized into zones, each served by domain name servers

Today, the Internet Corporation for Assigned Names and Numbers (ICANN) manages the top-level development and architecture of the Internet domain name space. It authorizes domain name registrars, through which domain names may be registered and reassigned.



The hierarchy of labels in a fully qualified domain name

The domain name space consists of a tree of domain names. Each node in the tree holds information associated with the domain name. The tree sub-divides into *zones* beginning at the DNS root zone.

Domain name syntax

[edit]

A domain name consists of one or more parts, technically called *labels*, that are conventionally concatenated, and delimited by dots, such as *example.com*.

- The right-most label conveys the top-level domain; for example, the domain name *www.example.com* belongs to the top-level domain *com*.
- The hierarchy of domains descends from the right to the left label in the name; each label to the left specifies a subdivision, or subdomain of the domain to the right. For example: the label *example* specifies a node *example.com* as a subdomain of the *com* domain, and *www* is a label to create *www.example.com*, a subdomain of *example.com*. Each label may contain from 1 to 63 octets. The empty label is reserved for the root node and when fully qualified is expressed as the empty label terminated by a dot. The full domain name may not exceed a total length of 253 ASCII characters in its textual representation.[8]
- A hostname is a domain name that has at least one associated IP address. For example, the domain names *www.example.com* and *example.com* are also hostnames, whereas the *com* domain is not. However, other top-level domains, particularly country code top-level domains, may indeed have an IP address, and if so, they are also hostnames.
- Hostnames impose restrictions on the characters allowed in the corresponding domain name. A valid hostname is also a valid domain name, but a valid domain name may not necessarily be valid as a hostname.

Top-level domains

[edit]

When the Domain Name System was devised in the 1980s, the domain name space was divided into two main groups of domains.[9] The country code top-level domains (ccTLD) were primarily based on the two-character territory codes of ISO-3166 country abbreviations. In addition, a group of seven generic top-level domains (gTLD) was implemented which represented a set of categories of names and multi-organizations.[10] These were the domains gov, edu, com, mil, org, net, and int. These two types of top-level domains (TLDs) are the highest level of domain names of the Internet. Top-level domains form the DNS root zone of the hierarchical Domain Name System. Every domain name ends with a top-level domain label.

During the growth of the Internet, it became desirable to create additional generic top-level domains. As of October 2009, 21 generic top-level domains and 250 two-letter country-code top-level domains existed.[11] In addition, the ARPA domain serves technical purposes in the infrastructure of the Domain Name System.

During the 32nd International Public ICANN Meeting in Paris in 2008,[12] ICANN started a new process of TLD naming policy to take a "significant step forward on the introduction of new generic top-level domains." This program envisions the availability of many new or already proposed domains, as well as a new application and implementation process.[13] Observers believed that the new rules could result in hundreds of new top-level domains to be registered.[14] In 2012, the program commenced, and received 1930 applications.[15] By 2016, the milestone of 1000 live

gTLD was reached.

The Internet Assigned Numbers Authority (IANA) maintains an annotated list of top-level domains in the DNS root zone database.[16]

For special purposes, such as network testing, documentation, and other applications, IANA also reserves a set of special-use domain names.[17] This list contains domain names such as example, local, localhost, and test. Other top-level domain names containing trade marks are registered for corporate use. Cases include brands such as BMW, Google, and Canon.[18]

Second-level and lower level domains

[edit]

Below the top-level domains in the domain name hierarchy are the second-level domain (SLD) names. These are the names directly to the left of .com, .net, and the other top-level domains. As an example, in the domain *example.co.uk*, *co* is the second-level domain.

Next are third-level domains, which are written immediately to the left of a second-level domain. There can be fourth- and fifth-level domains, and so on, with virtually no limitation. Each label is separated by a full stop (dot). An example of an operational domain name with four levels of domain labels is *sos.state.oh.us*. 'sos' is said to be a sub-domain of 'state.oh.us', and 'state' a sub-domain of 'oh.us', etc. In general, subdomains are domains subordinate to their parent domain. An example of very deep levels of subdomain ordering are the IPv6 reverse resolution DNS zones, e.g., 1.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.ip6.arpa, which is the reverse DNS resolution domain name for the IP address of a loopback interface, or the localhost name.

Second-level (or lower-level, depending on the established parent hierarchy) domain names are often created based on the name of a company (e.g., *bbc*.co.uk), product or service (e.g. *hotmail*.com). Below these levels, the next domain name component has been used to designate a particular host server. Therefore, *ftp.example.com* might be an FTP server, *www.example.com* would be a World Wide Web server, and *mail.example.com* could be an email server, each intended to perform only the implied function. Modern technology allows multiple physical servers with either different (cf. load balancing) or even identical addresses (cf. anycast) to serve a single hostname or domain name, or multiple domain names to be served by a single computer. The latter is very popular in Web hosting service centers, where service providers host the websites of many organizations on just a few servers.

The hierarchical DNS labels or components of domain names are separated in a fully qualified name by the full stop (dot, *.*).

Internationalized domain names

[edit]
Main article: Internationalized domain name

The character set allowed in the Domain Name System is based on ASCII and does not allow the representation of names and words of many languages in their native scripts or alphabets. ICANN approved the Internationalized domain name (IDNA) system, which maps Unicode strings used in application user interfaces into the valid DNS character set by an encoding called Punycode. For example, københavn.eu is mapped to xn--kbenhavn-54a.eu. Many registries have adopted IDNA.

Domain name registration

[edit]

History

[edit]

The first commercial Internet domain name, in the TLD *com*, was registered on 15 March 1985 in the name symbolics.com by Symbolics Inc., a computer systems firm in Cambridge, Massachusetts.

By 1992, fewer than 15,000 *com* domains had been registered.

In the first quarter of 2015, 294 million domain names had been registered.[19] A large fraction of them are in the *com* TLD, which as of December 21, 2014, had 115.6 million domain names,[20] including 11.9 million online business and e-commerce sites, 4.3 million entertainment sites, 3.1 million finance related sites, and 1.8 million sports sites.[21] As of July 15, 2012, the *com* TLD had more registrations than all of the ccTLDs combined.[22]

As of December 31, 2023, 359.8 million domain names had been registered.[23]

Administration

[edit]

The right to use a domain name is delegated by domain name registrars, which are accredited by the Internet Corporation for Assigned Names and Numbers (ICANN), the organization charged

with overseeing the name and number systems of the Internet. In addition to ICANN, each top-level domain (TLD) is maintained and serviced technically by an administrative organization operating a registry. A registry is responsible for maintaining the database of names registered within the TLD it administers. The registry receives registration information from each domain name registrar authorized to assign names in the corresponding TLD and publishes the information using a special service, the WHOIS protocol.

Registries and registrars usually charge an annual fee for the service of delegating a domain name to a user and providing a default set of name servers. Often, this transaction is termed a sale or lease of the domain name, and the registrant may sometimes be called an "owner", but no such legal relationship is actually associated with the transaction, only the exclusive right to use the domain name. More correctly, authorized users are known as "registrants" or as "domain holders".

ICANN publishes the complete list of TLD registries and domain name registrars. Registrant information associated with domain names is maintained in an online database accessible with the WHOIS protocol. For most of the 250 country code top-level domains (ccTLDs), the domain registries maintain the WHOIS (Registrant, name servers, expiration dates, etc.) information.

Some domain name registries, often called *network information centers* (NIC), also function as registrars to end-users. The major generic top-level domain registries, such as for the *com*, *net*, *org*, *info* domains and others, use a registry-registrar model consisting of hundreds of domain name registrars (see lists at ICANN[24] or VeriSign).[25] In this method of management, the registry only manages the domain name database and the relationship with the registrars. The *registrants* (users of a domain name) are customers of the registrar, in some cases through additional layers of resellers.

There are also a few other alternative DNS root providers that try to compete or complement ICANN's role of domain name administration, however, most of them failed to receive wide recognition, and thus domain names offered by those alternative roots cannot be used universally on most other internet-connecting machines without additional dedicated configurations.

Technical requirements and process

[edit]

In the process of registering a domain name and maintaining authority over the new name space created, registrars use several key pieces of information connected with a domain:

- *Administrative contact*. A registrant usually designates an administrative contact to manage the domain name. The administrative contact usually has the highest level of control over a domain. Management functions delegated to the administrative contacts may include management of all business information, such as name of record, postal address, and contact information of the official registrant of the domain and the obligation to conform to the requirements of the domain registry in order to retain the right to use a domain name.

Furthermore, the administrative contact installs additional contact information for technical and billing functions.
- *Technical contact*. The technical contact manages the name servers of a domain name. The functions of a technical contact include assuring conformance of the configurations of the domain name with the requirements of the domain registry, maintaining the domain zone records, and providing continuous functionality of the name servers (that leads to the accessibility of the domain name).
- *Billing contact*. The party responsible for receiving billing invoices from the domain name registrar and paying applicable fees.
- *Name servers*. Most registrars provide two or more name servers as part of the registration service. However, a registrant may specify its own authoritative name servers to host a domain's resource records. The registrar's policies govern the number of servers and the type of server information required. Some providers require a hostname and the corresponding IP address or just the hostname, which must be resolvable either in the new domain, or exist elsewhere. Based on traditional requirements (RFC 1034), typically a minimum of two servers is required.

A domain name consists of one or more labels, each of which is formed from the set of ASCII letters, digits, and hyphens (a–z, A–Z, 0–9, -), but not starting or ending with a hyphen. The labels are case-insensitive; for example, 'label' is equivalent to 'Label' or 'LABEL'. In the textual representation of a domain name, the labels are separated by a full stop (period).

Business models

[edit]

Domain names are often seen in analogy to real estate in that domain names are foundations on which a website can be built, and the highest *quality* domain names, like sought-after real estate, tend to carry significant value, usually due to their online brand-building potential, use in advertising, search engine optimization, and many other criteria.

A few companies have offered low-cost, below-cost or even free domain registration with a variety of models adopted to recoup the costs to the provider. These usually require that domains be hosted on their website within a framework or portal that includes advertising wrapped around the domain holder's content, revenue from which allows the provider to recoup the costs. Domain registrations were free of charge when the DNS was new. A domain holder may provide an infinite number of subdomains in their domain. For example, the owner of *example.org* could provide subdomains such as *foo.example.org* and *foo.bar.example.org* to interested parties.

Many desirable domain names are already assigned and users must search for other acceptable names, using Web-based search features, or WHOIS and dig operating system tools. Many registrars have implemented **domain name suggestion** tools which search domain name databases and suggest available alternative domain names related to keywords provided by the user.

Resale of domain names

[edit]
Main article: List of most expensive domain names

The business of resale of registered domain names is known as the domain aftermarket. Various factors influence the perceived value or market value of a domain name. Most of the high-prize domain sales are carried out privately.[26] Also, it is called confidential domain acquiring or anonymous domain acquiring.[27]

Domain name confusion

[edit]

Intercapping is often used to emphasize the meaning of a domain name, because DNS names are not case-sensitive. Some names may be misinterpreted in certain uses of capitalization. For example: *Who Represents*, a database of artists and agents, chose *whorepresents.com*,[28] which can be misread. In such situations, the proper meaning may be clarified by placement of hyphens when registering a domain name. For instance, Experts Exchange, a programmers' discussion site, used *expertsexchange.com*, but changed its domain name to *experts-exchange.com*.[29]

Uses in website hosting

[edit]

The domain name is a component of a uniform resource locator (URL) used to access websites, for example:

- URL: http://www.example.net/index.html
- Top-level domain: net
- Second-level domain: example
- Hostname: www

A domain name may point to multiple IP addresses to provide server redundancy for the services offered, a feature that is used to manage the traffic of large, popular websites.

Web hosting services, on the other hand, run servers that are typically assigned only one or a few addresses while serving websites for many domains, a technique referred to as virtual web hosting . Such IP address overloading requires that each request identifies the domain name being referenced, for instance by using the HTTP request header field *Host:*, or Server Name Indication.

Abuse and regulation

[edit]

Critics often claim abuse of administrative power over domain names. Particularly noteworthy was the VeriSign Site Finder system which redirected all unregistered .com and .net domains to a VeriSign webpage. For example, at a public meeting with VeriSign to air technical concerns about Site Finder,[30] numerous people, active in the IETF and other technical bodies, explained how they were surprised by VeriSign's changing the fundamental behavior of a major component of Internet infrastructure, not having obtained the customary consensus. Site Finder, at first, assumed every Internet query was for a website, and it monetized queries for incorrect domain names, taking the user to VeriSign's search site. Other applications, such as many implementations of email, treat a lack of response to a domain name query as an indication that the domain does not exist, and that the message can be treated as undeliverable. The original VeriSign implementation broke this assumption for mail, because it would always resolve an erroneous domain name to that of Site Finder. While VeriSign later changed Site Finder's behaviour with regard to email, there was still widespread protest about VeriSign's action being more in its financial interest than in the interest of the Internet infrastructure component for which VeriSign was the steward.

Despite widespread criticism, VeriSign only reluctantly removed it after the Internet Corporation for Assigned Names and Numbers (ICANN) threatened to revoke its contract to administer the root name servers. ICANN published the extensive set of letters exchanged, committee reports, and ICANN decisions.[31]

There is also significant disquiet regarding the United States Government's political influence over ICANN. This was a significant issue in the attempt to create a .xxx top-level domain and sparked greater interest in alternative DNS roots that would be beyond the control of any single country.[32]

Additionally, there are numerous accusations of domain name front running, whereby registrars, when given whois queries, automatically register the domain name for themselves. Network Solutions has been accused of this.[33]

Truth in Domain Names Act

[edit]

In the United States, the Truth in Domain Names Act of 2003, in combination with the PROTECT Act of 2003, forbids the use of a misleading domain name with the intention of attracting Internet users into visiting Internet pornography sites.

The Truth in Domain Names Act follows the more general Anticybersquatting Consumer Protection Act passed in 1999 aimed at preventing typosquatting and deceptive use of names and trademarks in domain names.

Seizures

[edit]

In the early 21st century, the US Department of Justice (DOJ) pursued the seizure of domain names, based on the legal theory that domain names constitute property used to engage in criminal activity, and thus are subject to forfeiture. For example, in the seizure of the domain name of a gambling website, the DOJ referenced 18 U.S.C. § 981 and 18 U.S.C. § 1955(d).[34][1] In 2013 the US government seized Liberty Reserve, citing 18 U.S.C. § 982(a)(1).[35]

The U.S. Congress passed the Combating Online Infringement and Counterfeits Act in 2010. Consumer Electronics Association vice president Michael Petricone was worried that seizure was a *blunt instrument* that could harm legitimate businesses.[36][37] After a joint operation on February 15, 2011, the DOJ and the Department of Homeland Security claimed to have seized ten domains of websites involved in advertising and distributing child pornography, but also mistakenly seized the domain name of a large DNS provider, temporarily replacing 84,000 websites with seizure notices.[38]

In the United Kingdom, the Police Intellectual Property Crime Unit (PIPCU) has been attempting to seize domain names from registrars without court orders.[39]

- Seizure notices absolutepoker.com
- Image not found or type unknown

absolutepoker.com
channelsurfing.net

- Image not found or type unknown

channelsurfing.net
libertyreserve.com

- Image not found or type unknown

libertyreserve.com

Suspensions

[edit]

PIPCU and other UK law enforcement organisations make domain suspension requests to Nominet which they process on the basis of breach of terms and conditions. Around 16,000 domains are suspended annually, and about 80% of the requests originate from PIPCU.[40]

Property rights

[edit]

Because of the economic value it represents, the European Court of Human Rights has ruled that the exclusive right to a domain name is protected as property under article 1 of Protocol 1 to the European Convention on Human Rights.[41]

IDN variants

[edit]

ICANN Business Constituency (BC) has spent decades trying to make IDN variants work at the second level, and in the last several years at the top level. Domain name variants are domain names recognized in different character encodings, like a single domain presented in traditional Chinese and simplified Chinese. It is an Internationalization and localization problem. Under Domain Name Variants, the different encodings of the domain name (in simplified and traditional Chinese) would resolve to the same host.[42][43]

According to John Levine, an expert on Internet related topics, "Unfortunately, variants don't work. The problem isn't putting them in the DNS, it's that once they're in the DNS, they don't work anywhere else."[42]

Fictitious domain name

[edit]

A *fictitious domain name* is a domain name used in a work of fiction or popular culture to refer to a domain that does not actually exist, often with invalid or unofficial top-level domains such as ".web ", a usage exactly analogous to the dummy 555 telephone number prefix used in film and other media. The canonical fictitious domain name is "example.com", specifically set aside by IANA in RFC 2606 for such use, along with the *.example* TLD.

Domain names used in works of fiction have often been registered in the DNS, either by their creators or by cybersquatters attempting to profit from it. This phenomenon prompted NBC to purchase the domain name Hornymanatee.com after talk-show host Conan O'Brien spoke the name while ad-libbing on his show. O'Brien subsequently created a website based on the concept and used it as a running gag on the show.[44] Companies whose works have used fictitious domain names have also employed firms such as MarkMonitor to park fictional domain names in order to prevent misuse by third parties.[45]

Misspelled domain names

[edit]

This section **does not cite any sources**. Please help improve this section by adding citations to reliable sources. Unsourced material may be challenged and removed. *(December 2022) (Learn how and when to remove this message)*

Misspelled domain names, also known as typosquatting or URL hijacking, are domain names that are intentionally or unintentionally misspelled versions of popular or well-known domain names. The goal of misspelled domain names is to capitalize on internet users who accidentally type in a misspelled domain name, and are then redirected to a different website.

Misspelled domain names are often used for malicious purposes, such as phishing scams or distributing malware. In some cases, the owners of misspelled domain names may also attempt to sell the domain names to the owners of the legitimate domain names, or to individuals or organizations who are interested in capitalizing on the traffic generated by internet users who accidentally type in the misspelled domain names.

To avoid being caught by a misspelled domain name, internet users should be careful to type in domain names correctly, and should avoid clicking on links that appear suspicious or unfamiliar. Additionally, individuals and organizations who own popular or well-known domain names should consider registering common misspellings of their domain names in order to prevent others from using them for malicious purposes.

Domain name spoofing

[edit]

The term **Domain name spoofing** (or simply though less accurately, **Domain spoofing**) is used generically to describe one or more of a class of phishing attacks that depend on falsifying or misrepresenting an internet domain name.[46][47] These are designed to persuade unsuspecting users into visiting a web site other than that intended, or opening an email that is not in reality from the address shown (or apparently shown).[48] Although website and email spoofing attacks are more widely known, any service that relies on domain name resolution may be compromised.

Types

[edit]

There are a number of better-known types of domain spoofing:

- Typosquatting, also called "URL hijacking", a "sting site", or a "fake URL", is a form of cybersquatting, and possibly brandjacking which relies on mistakes such as typos made by Internet users when inputting a website address into a web browser or composing an email address. Should a user accidentally enter an incorrect domain name, they may be led to any URL (including an alternative website owned by a cybersquatter).[49]

  The typosquatter's URL will usually be one of five kinds, all *similar to* the victim site address:
  - A common misspelling, or foreign language spelling, of the intended site
  - A misspelling based on a typographical error
  - A plural of a singular domain name
  - A different top-level domain: (i.e. .com instead of .org)
  - An abuse of the Country Code Top-Level Domain (ccTLD) (.cm, .co, or .om instead of .com)

- IDN homograph attack. This type of attack depends on registering a domain name that is similar to the 'target' domain, differing from it only because its spelling includes one or more characters that come from a different alphabet but look the same to the naked eye. For example, the Cyrillic, Latin, and Greek alphabets each have their own letter A, each of which has its own binary code point. Turkish has a dotless letter i (ÃƒÆ'Ã†â€™Ãƒâ€ Ã¢â‚¬â„¢Ãƒâ€™Ã¢â‚¬Ã ÃƒÂ¢Ã¢â€šÂ¬Ã¢â€žÂ¢ÃƒÆ'Ã†â€™Ãƒâ€šÃ¬Ã,Â Ã) that may not be perceived as different from the ASCII letter i. Most web browsers warn of 'mixed alphabet' domain names,[50][51][52][53] Other services, such as email applications, may not provide the same protection. Reputable top level domain and country code domain registrars will not accept applications to register a deceptive name but this policy cannot be presumed to be infallible.
- DNS spoofing – Cyberattack using corrupt DNS data
- Website spoofing – Creating a website, as a hoax, with the intention of misleading readers
- Email spoofing – Creating email spam or phishing messages with a forged sender identity or address

Risk mitigation

[edit]

- Domain Name System Security Extensions – Suite of IETF specifications
- Sender Policy Framework – Simple email-validation system designed to detect email spoofing
- DMARC – System to prevent email fraud ("Domain-based Message Authentication, Reporting and Conformance")
- DomainKeys Identified Mail – Email authentication method designed to detect email spoofing
- Public key certificate – Electronic document used to prove the ownership of a public key (SSL certificate)

Legitimate technologies that may be subverted

[edit]

- URL redirection – Technique for making a Web page available under more than one URL address
- Domain fronting – Technique for Internet censorship circumvention

See also

[edit]

- Domain hack
- Domain hijacking
- Domain name registrar
- Domain name speculation
- Domain name warehousing
- Domain registration
- Domain tasting
- Geodomain
- List of Internet top-level domains
- Reverse domain hijacking
- Reverse domain name notation

References

[edit]

1. ^ *Stevens, W. Richard (1994). TCP/IP Illustrated, Volume 1: The Protocols. Vol. 1 (1 ed.). Addison-Wesley. ISBN 9780201633467.*
2. ^ *Arends, R.; Austein, R.; Larson, M.; Massey, D.; Rose, S. (2005). RFC 4034 – Resource Records for the DNS Security Extensions (Technical report). IEFT. doi:10.17487/RFC4034. Archived from the original on 2018-09-20. Retrieved 2015-07-05.*
3. ^ *Low, Jerry. "Why are generic domains so expensive?". TheRealJerryLow.com. Archived from the original on 20 March 2019. Retrieved 27 September 2018.*
4. ^ RFC 3467, *Role of the Domain Name System (DNS)*, J.C. Klensin, J. Klensin (February 2003)
5. ^ *Cricket Liu, Paul Albitz (2006). DNS and BIND (5th ed.). O'Reilly. p. 3. Archived from the original on 2011-09-05. Retrieved 2011-10-22.*
6. ^ *"The first ever 20 domain names registered". ComputerWeekly.com. Archived from the original on 2020-08-08. Retrieved 2020-07-30.*
7. ^ *Rooksby, Jacob H. (2015). "Defining Domain: Higher Education's Battles for Cyberspace". Brooklyn Law Review. **80** (3): 857–942. Archived from the original on 2018-11-07. Retrieved 2015-10-27.* at p. 869
8. ^ *Mockapetris, P. (November 1987). "Domain names - Implementation and specification (RFC 1035)". IETF Datatracker. Retrieved January 21, 2024.*
9. ^ *"Introduction to Top-Level Domains (gTLDs)". Internet Corporation for Assigned Names and Numbers (ICANN). Archived from the original on 2009-06-15. Retrieved 2009-06-26.*
10. ^ RFC 920, *Domain Requirements*, J. Postel, J. Reynolds, The Internet Society (October 1984)
11. ^ "New gTLD Program" Archived 2011-11-25 at the Wayback Machine, ICANN, October 2009
12. ^ *"32nd International Public ICANN Meeting". ICANN. 2008-06-22. Archived from the original on 2009-03-08. Retrieved 2009-06-26.*
13. ^ *"New gTLS Program". ICANN. Archived from the original on 2011-09-10. Retrieved 2009-06-15.*

14. ^ ICANN Board Approves Sweeping Overhaul of Top-level Domains Archived 2009-06-26 at the Wayback Machine, CircleID, 26 June 2008.
15. ^ *"About the Program - ICANN New gTLDs". ICANN. Archived from the original on 2016-11-03. Retrieved 2016-11-09.*
16. ^ *"Root Zone Database". IANA. Archived from the original on 2019-05-04. Retrieved 2020-11-01.*
17. ^ *Cheshire, S.; Krochmal, M. (February 2013). "RFC6761 - Special-Use Domain Names". Internet Engineering Task Force. doi:10.17487/RFC6761. Archived from the original on 13 November 2020. Retrieved 3 May 2015.*
18. ^ *"Executive Summary - dot brand observatory". observatory.domains. Archived from the original on 2016-11-10. Retrieved 2016-11-09.*
19. ^ Internet Grows to 294 Million Domain Names in the First Quarter of 2015 Archived 2017-12-20 at the Wayback Machine, Jun 30, 2015.
20. ^ *"Thirty years of .COM domains - and the numbers are up". Geekzone. Mar 13, 2015. Archived from the original on April 7, 2016. Retrieved Mar 25, 2016.*
21. ^ Evangelista, Benny. 2010. "25 years of .com names." San Francisco Chronicle. March 15, p. 1
22. ^ *"Domain domination: The com TLD larger than all ccTLDs combined". Royal.pingdom.com. Archived from the original on 2012-07-23. Retrieved 2012-07-25.*
23. ^ *"DNIB Quarterly Report Q4 2023". Domain Name Industry Brief (DNIB). Retrieved 16 February 2024.*
24. ^ *"ICANN-Accredited Registrars". ICANN. Archived from the original on 2019-05-19. Retrieved 2012-09-13.*
25. ^ *"Choose A Top Domain Registrar Of Your Choice Using Our Search Tool". Verisign. Archived from the original on 2015-09-04. Retrieved 2015-08-10.*
26. ^ *Arif, Sengoren (1 October 2024). "Confidentially domain acquiring".*
27. ^ *"Anonymous Domain Ownership". Conference: 2023 IEEE International Conference on Blockchain and Cryptocurrency (ICBC). 1 October 2024.*
28. ^ *Courtney, Curzi (14 October 2014). "WhoRepresents helps brands connect with celebrity influencers". DM News. Archived from the original on 8 July 2019. Retrieved 8 July 2019.*
29. ^ *Ki, Mae Heussner (2 June 2010). "'Slurls': Most Outrageous Website URLs". ABC News. Archived from the original on 31 May 2019. Retrieved 8 July 2019.*
30. ^ *McCullagh, Declan (2003-10-03). "VeriSign fends off critics at ICANN confab". CNET News. Archived from the original on January 4, 2013. Retrieved 2007-09-22.*
31. ^ *"Verisign's Wildcard Service Deployment". ICANN. Archived from the original on 2008-12-02. Retrieved 2007-09-22.*
32. ^ *Mueller, M (March 2004). Ruling the Root. MIT Press. ISBN 0-262-63298-5.*
33. ^ Slashdot.org Archived 2010-02-17 at the Wayback Machine, NSI Registers Every Domain Checked
34. ^ *FBI / DOJ (15 April 2011). "Warning". Archived from the original on 2011-04-14. Retrieved 2011-04-15.*
35. ^ *Dia, Miaz (4 February 2010). "website laten maken". Kmowebdiensten. Archived from the original on December 20, 2016. Retrieved 8 December 2016.*
36. ^ *Gabriel, Jeffrey (18 June 2020). "Past Congressional Attempts to Combat Online Copyright Infringement". Saw. Archived from the original on 2020-06-20. Retrieved 2020-06-19.*

37. ^ *Jerome, Sarah (6 April 2011). "Tech industry wary of domain name seizures". The Hill. Archived from the original on 2011-04-10. Retrieved 2011-04-15.*
38. ^ *"U.S. Government Shuts Down 84,000 Websites, 'By Mistake'". Archived from the original on 2018-12-25. Retrieved 2012-12-16.*
39. ^ *Jeftovic, Mark (8 October 2013). "Whatever Happened to "Due Process" ?". Archived from the original on 5 December 2014. Retrieved 27 November 2014.*
40. ^ Tackling online criminal activity Archived 2017-12-16 at the Wayback Machine, 1 November 2016 – 31 October 2017, Nominet
41. ^ ECHR 18 September 2007, no. 25379/04, 21688/05, 21722/05, 21770/05, *Paeffgen v Germany*.
42. ^ ***a b*** *Levine, John R. (April 21, 2019). "Domain Name Variants Still Won't Work". Archived from the original on July 29, 2020. Retrieved May 23, 2020.*
43. ^ *"Comment on ICANN Recommendations for Managing IDN Variant Top-Level Domains" (PDF). ICANN. April 21, 2019. Archived (PDF) from the original on 2022-10-09. Retrieved May 23, 2020.*
44. ^ "So This Manatee Walks Into the Internet Archived 2017-01-23 at the Wayback Machine", *The New York Times*, December 12, 2006. Retrieved April 12, 2008.
45. ^ *Allemann, Andrew (2019-11-05). "Part of MarkMonitor sold to OpSec Security". Domain Name Wire | Domain Name News. Retrieved 2024-11-26.*
46. ^ *"Canadian banks hit by two-year domain name spoofing scam". Finextra. 9 January 2020. Archived from the original on 6 November 2021. Retrieved 27 August 2021.*
47. ^ *"Domain spoofing". Barracuda Networks. Archived from the original on 2021-11-04. Retrieved 2021-08-27.*
48. ^ *Tara Seals (August 6, 2019). "Mass Spoofing Campaign Abuses Walmart Brand". threatpost. Archived from the original on November 6, 2021. Retrieved August 27, 2021.*
49. ^ *"Example Screenshots of Strider URL Tracer With Typo-Patrol". Microsoft Research. Archived from the original on 21 December 2008.*
50. ^ *"Internationalized Domain Names (IDN) in Google Chrome". chromium.googlesource.com. Archived from the original on 2020-11-01. Retrieved 2020-08-26.*
51. ^ *"Upcoming update with IDN homograph phishing fix - Blog". Opera Security. 2017-04-21. Archived from the original on 2020-08-08. Retrieved 2020-08-26.*
52. ^ *"About Safari International Domain Name support". Archived from the original on 2014-06-17. Retrieved 2017-04-29.*
53. ^ *"IDN Display Algorithm". Mozilla. Archived from the original on 2016-01-31. Retrieved 2016-01-31.*

External links

[edit]

Image not found or type unknown

Look up ***homograph*** in Wiktionary, the free dictionary.

Image not found or type unknown

Wikimedia Commons has media related to ***Domain name space***.

- (domain bias in web search) a research by Microsoft
- Top Level Domain Bias in Search Engine Indexing and Rankings
- Icann New gTLD Program Factsheet - October 2009 (PDF)
- IANA Two letter Country Code TLD
- ICANN - Internet Corporation for Assigned Names and Numbers
- Internic.net, public information regarding Internet domain name registration services
- Internet Domain Names: Background and Policy Issues Congressional Research Service
- RFC 1034, Domain Names — Concepts and Facilities, an Internet Protocol Standard
- RFC 1035, Domain Names — Implementation and Specification, an Internet Protocol Standard
- UDRP, Uniform Domain-Name Dispute-Resolution Policy
- Special use domain names

- **v**
- **t**
- **e**

Website management

Web hosting

- Clustered
- Peer-to-peer
- Self-hosting
- Virtual

Web analytics

- Click analytics
- Mobile web analytics
- Web tracking
  - Click tracking

Concepts

- Overselling
- Web document
- Web content
- Web content lifecycle
- Web server
- Web cache
- Webmaster
- Website governance

Web hosting control panels (comparison)

- AlternC
- cPanel
- DirectAdmin
- Domain Technologie Control
- Froxlor
- i-MSCP
- InterWorx
- ISPConfig
- Ispmanager
- Kloxo
- Plesk
- Usermin
- Webmin

Top-level domain registries

- AFNIC
- auDA
- DNS Belgium
- CentralNic
- CIRA
- CNNIC
- CZ.NIC
- DENIC
- EURid
- Freenom
- GoDaddy
- Google Domains
- Identity Digital
- IPM
- JPRS
- KISA
- NIC México
- Nominet
- PIR
- Tucows
- Verisign

Domain name managers and registrars

- Bluehost
- Domainz
- DreamHost
- Dynadot
- Enom
- Epik
- Gandi
- GlowHost
- GMO Internet
- GoDaddy
- Google Domains
- Hover
- Infomaniak
- Jimdo
- Name.com
- Namecheap
- Hostinger
- NameSilo
- NearlyFreeSpeech
- Network Solutions
- OVH
- Register.com
- Squarespace
- Tucows
- UK2
- Webcentral
- Web.com
- Wix.com

Web content management system

- Document management system
- Wiki software
- Blog software

Authority control databases: National Image not found or type unknown **Edit this at Wikidata**

- Germany
- United States
- France
- BnF data
- Japan
- Israel

Check our other pages :

- Small business SEO Parramatta
- Web design company Parramatta
- SEO audit Parramatta
- Affordable SEO Parramatta
- Website designers Parramatta
- Best SEO agency Parramatta
- Local SEO Parramatta

Parramatta web design agency

SEO Parramatta

Phone : 1300 684 339

City : Sydney

State : NSW

Zip : 2000

Google Business Profile

Google Business Website

Company Website : https://sydney.website/seo-sydney/local-seo/seo-parramatta/

USEFUL LINKS

SEO Website

SEO Services Sydney

Local SEO Sydney

SEO Ranking

SEO optimisation

LATEST BLOGPOSTS

SEO community

SEO Buzz

WordPress SEO

SEO Audit

Sitemap

Privacy Policy

About Us

SEO Castle Hill | SEO Fairfield | SEO Hornsby | SEO Liverpool | SEO North Sydney | SEO Norwest | SEO Parramatta | SEO Penrith | SEO Strathfield | SEO Wetherill Park

Follow us