
**Developing computational resources
to conduct linguistic research
on Sanskrit
and
provide digital access
to Sanskrit texts and manuscripts**

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1 Sanskrit and Computers

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- Use of Computers for Sanskrit
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Use of Computers for Sanskrit

Use of Computers

- for processing the Sanskrit texts
- for developing Linguistic resources
- as a tool to carry out linguistic research

Use of Sanskrit for Computers

Here Sanskrit refers to the Sanskrit Shastras that deal with language analysis: such as vyākaraṇa, nyāya and mīmāṃsā.

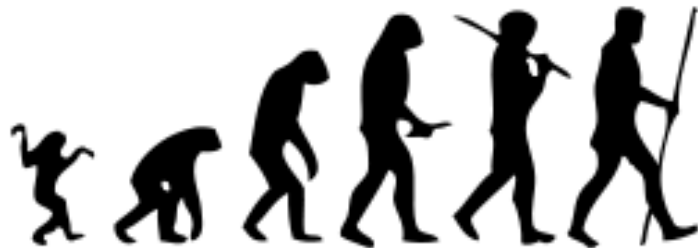
Computer -> Language Technology

Use of Computers for processing the Sanskrit texts

Humans developed various tools

Protect themselves

Conquer the universe



Tools, Machines are extensions of various organs of his
own physical body

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simple hand tools: extend the functions of hand



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bicycle: replace/extend the function of legs

Amplify the power or extend the muscular capacity



Telescopes and Microscopes: extend the man's vision.



Telephone, broadcasting systems: extend the man's voice and hearing.



Library and computer network: amplify memory and mental power.

Telephone, broadcasting systems:
independent of languages being used / universal in
nature.

Technology once developed, can be used by everybody
irrespective of the language being used.

Library and Computer network: Dependent on various aspects of languages

script: print technology Versus photocopy machine

OCR: complexity of script

Speech: script incapable of representing the information completely; e.g. accent

Necessary to develop technology for every language
else there is a danger of the language being marginalised

Various aspects/features of a language:

- Script
- Pronunciation
- Lexicon
- Word Formation/Analysis
- Grammar
- Association of a language string with its meaning

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- Language Conventions
 - Culture

Enabling language technologies for a language implies developing tools to support various above features of languages on the modern machines.

Understanding the Computer Technology

Computers: Arithmetic and Logic Unit, Memory

Computers can take the load of ROTE memory.

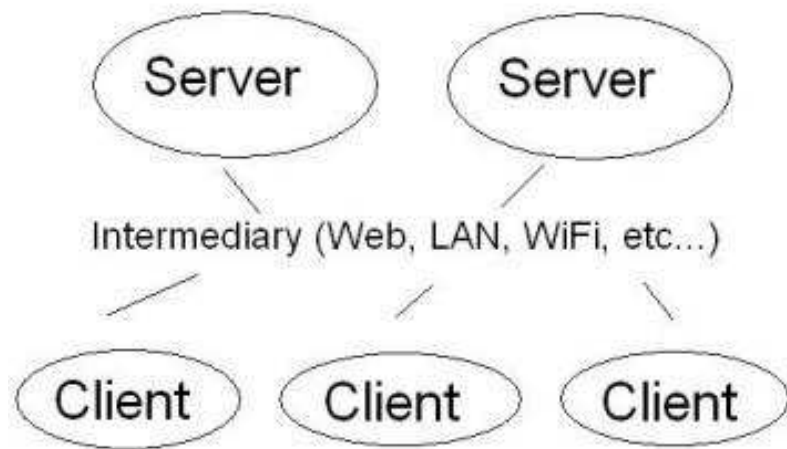
Internet: Computers connected by a network

Allows sharing of resources and devices.

Department of Defense, USA – Advanced Research
Projects Agency Network (ARPANET) (1969)
UNIX, BSD, TCP/IP, Network , Internet

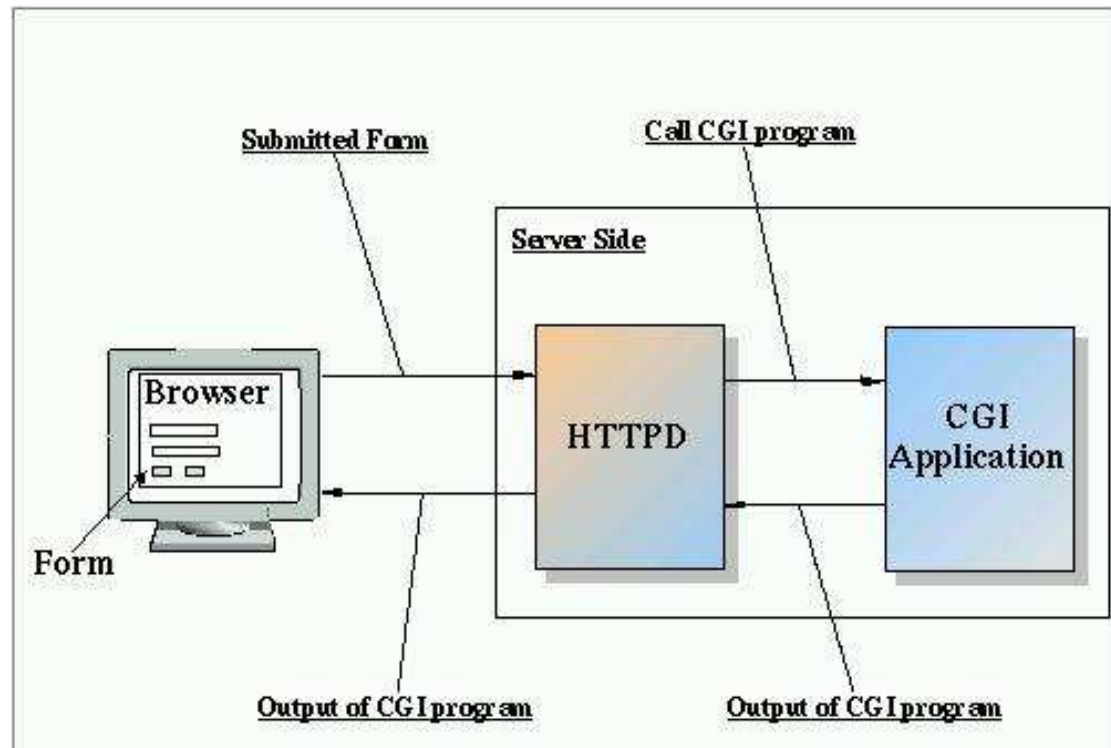
PC, Linux

HTTP, WWW, URL



Static pages

Remote Procedure Calls



HTTP, Apache/Java, scripting languages