

ROADMAP FOR COMPUTING IN TAMIL

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INTRODUCTION

The very old Tamil language must remain vibrant and modern. This mission is possible only if efforts are taken by the Government of Tamilnadu by motivating the skilled personnel in computing through linking the domain experts of all walks of life to create all sorts of applications and other required platforms in Tamil.

STANDARDISING COMPUTING ENVIRONMENT

Computing with Tamil relates to the design and development of useful applications which permit interaction with the system in Tamil. The applications could be standalone applications running on different platforms or web based applications , using Tamil in machine translation, text to speech, Optical Character Recognition (OCR), data processing, deep learning and big data analytics. For many years now, text in Tamil has been displayed on the web, the multiplicity of the fonts seen have posed real problems in arriving at some uniformity in text display. This was the main theme of discussions during the Tamilnet99 conference held in Chennai during February 1999. Till date, 16 International Tamil Internet Conferences were conducted to popularise Tamil language in computing with the latest conference(2017) was held in Canada.



Tamil Nadu Chief Minister M.Karunanidhi at TamilNet '99, the international conference on the use of Tamil in Information Technology held in Chennai in February, 1999. At the conference held in Chennai in 1999, it was proposed that the placement of glyphs within a Tamil font would follow a recommended scheme. Both bilingual and monolingual schemes were standardized. The conference also arrived at a standard for data entry in Tamil. Three different keyboard layouts were arrived at for use by different sections of the users. The first relates to what is

termed as the phonetic keyboard where data entry is effected through lower case keys alone for the basic text. the second scheme referred to as the Romanized keyboard, specifies data entry based on the Roman letter that comes close to the sound of the vowel or consonant. The third is the layout seen in standard Tamil typewriters. (<http://www.acharya.gen.in:8080/tamil/tamilcomp.php>)

TAMIL INTERFACE

Computing language is very essential to do more research in Tamil and speed up development of the language throughout the world (Students should develop Tamil computing applications. (<http://www.thehindu.com/news/national/tamil-nadu/%E2%80%9CStudents-should-develop-Tamil-computing-applications%E2%80%9D/article14631067.ece>)). Motivating the students in developing Tamil computing applications and software will help take the latest technologies to more Tamil people and spread their culture and tradition across the world. These were some of the points highlighted by Tamil scholars at the 15th International Tamil Internet Conference held at Gandhigram Rural Institute, Dindigul in 2016.



In the special address, Ulrike Niklas, Professor at the University of Cologne, Germany, said the main activity of the conference was to get new respect to Tamil, which was very old, and at the same time a modern language. In 2000, no Indian languages, including Tamil, were available on the internet. Singapore and Malaysia took the lead in taking Tamil to the 'internet world'. Now, all Tamil literary works had been available in original script on the internet, she said. Muthiah Annamalai, a Boston-based software engineer originally from Chennai, has developed Ezhil, a Tamil- based interpreted procedural programming language (*Making computing in Tamil easy*. <http://www.thehindu.com/todays-paper/tp-national/making-computing-in-tamil-easy/article 6714102.ece>).

TAMIL VIRTUAL ACADEMY

Tamil Virtual Academy proposed to develop Tamil computing software for the use of Tamil society and Tamil computing researchers (*tamil-computing-tools*. <http://www.tamilvu.org/en/content/tamil-computing-tools>). Government of Tamilnadu has sanctioned a sum of Rs.1.5 crore for the "Development of Tamil computing softwares" in G.O (2D) No: 26, dated 15-10-2015 under Tamilnadu innovative Initiatives Schemes (Part II Scheme) for the year 2015-16. Accordingly, 15 projects have been identified and 2 products have been already inaugurated by our honorable Chief Minister. The projects completed recently are as follows.

1. Tamilinaiyam - Sol Pesi - A text-to-speech (TTS) synthesis
2. Tamilinaiyam - Vivasaaya Thakavi - A speech-enabled interactive enquiry system for agriculture : http://speech.ssn.edu.in/agri_home/welcome.html
3. Tamilinaiyam - Tolkappiya Thakaval Peruvi - Tamil Grammar learning & teaching Tool
4. Tamilinaiyam - Tamil Payirruvi - Tamil language learning & teaching Tool
5. Tamilinaiyam - Nigazaayvi - A Tamil Mobile app that fetches events from Web - It brings Events into your hand : <http://78.46.86.133/TVA.apk>

TAMIL SOFTWARE DEVELOPMENT FUND (TSDF)

During the valedictory Function of "TamilNet 99" on 8.2.99, the Hon'ble Chief Minister M. Karunanidhi had announced the setting up of a 'Tamil Software Development Fund' to encourage the development of Tamil Software. Rupees five crore has been established by the Government of Tamil Nadu. Contributions from outside Government including the corporate sector was also accepted. The TSDF will be dedicated to supporting the development and promotion of innovative Tamil software in every aspect of IT including Education, Computer based training, Networking, Multimedia, Data Communication services and Internet.

Funds will be made available only to fund operations with in the states of Tamil Nadu, Puducherry and centrally funded institutions elsewhere in the country, irrespective of the place of incorporation of the individual organizations seeking support.

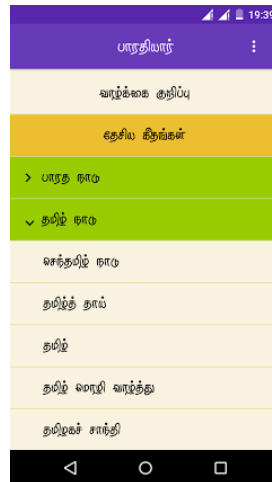
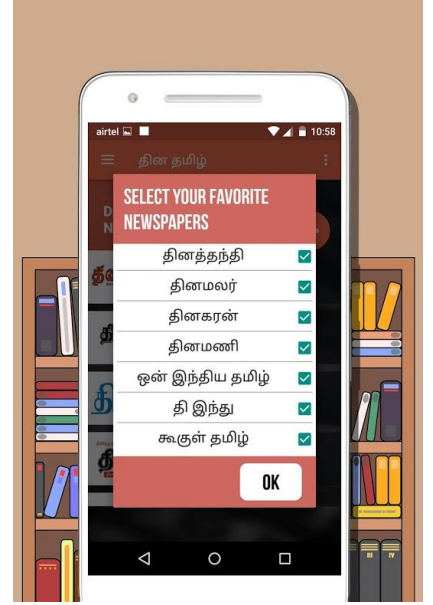
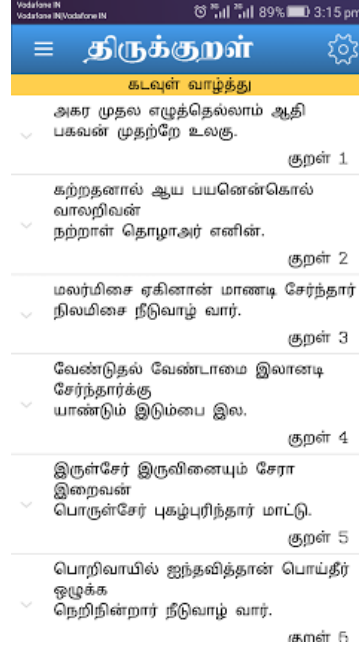
TAMIL APPS FOR FARMERS

The academy is developing an interactive system that can answer questions about paddy, sugarcane and ragi (Coming, an interactive Tamil app for farmers. <http://www.thehindubusinessline.com/economy/agri-business/coming-an-interactive-tamil-app-for-farmers/article9837112.ece> dated 29.8.17). The app can clarify farmers' doubts on crop diseases, fertilisers and soil fertility based on the information available in the database. The information is sourced from the Tamil Nadu Agricultural University. According to a recent study, about one-third of the 351 million internet users in the country are from rural areas. Low-cost and easy-to-use mobile devices to access the internet are pushing the growth in rural areas as well. There are applications such as Kisan Suvidha, IFFCO Kisan Agriculture, Agri App and Agri Market that currently help farmers with clarifications regarding crop insurance, prices and other issues. But having a platform that

lets the user speak in the vernacular is expected to be more effective. It is for this reason that TVA has focussed on crops that are widely produced in the State.

TAMIL APPS FOR LITERATURE

<https://play.google.com/store/apps/details?id=com.softcraft.thirukural>



TAMIL APPS TO READ NEWS



SAMAYAM TAMIL, is a Tamil news brand from Times Internet which offers latest news in Tamil, Tamil breaking news.

All tamil news papers

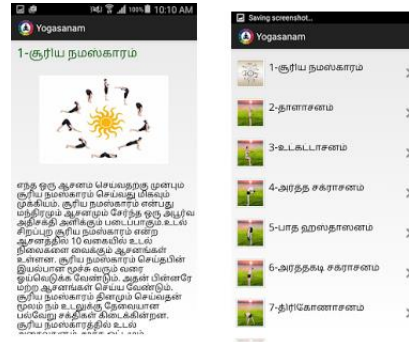


SIDDHA MEDICINE IN TAMIL



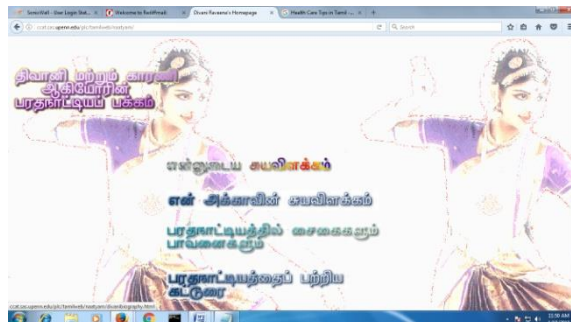
YOGA FOR HEALTH – TAMIL

<https://play.google.com/store/apps/details?id=neelagandan.tamil+yoga.com>.
familyyoga



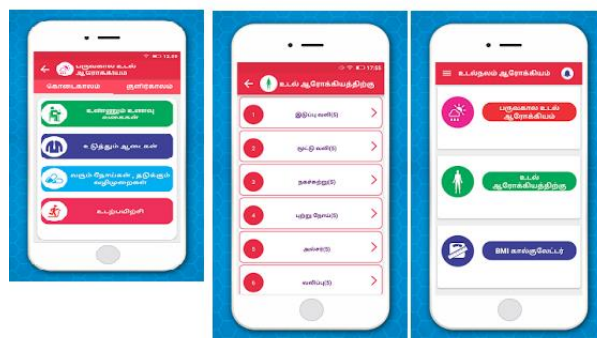
TAMIL APP TO LEARN BHARATHANATYAM

<http://ccat.sas.upenn.edu/plc/tamilweb/naatyam/>



HEALTH CARE TIPS IN TAMIL

(<https://play.google.com/store/apps/details?id=nithra.tamil.healthtips>)

**BIG DATA ANALYTICS ON TAMIL BHARATHIYAR POEMS**

Chandrasekaran S, and Chithra S (Chandrasekaran S, and Chithra S. Big Data Methods for Computational Tamil Linguistics with Emotion Oriented Semantic Pattern Mining. Discovery, 2016, 52(245), 979-984) proposed a poetic big data analytic method towards the computational linguistics on Tamil Bharathiyar poems. The existing methods are performing good analysis from the text and data input from the e-books and web resources but lagging in collection and construction of higher level dictionaries of patterns within the poetic context. The big data method will be helpful to retrieve the view of the poet with respect to social and cultural information from the literary texts and emotions. It is scalable to any Tamil poems and E-transactions based on the age of that phrase or poem and the location of the player or poet respectively. The multiple entities within a single paragraph and multiple paraphrases for a single entity mixed with emotions are the major issues in the proposed research work. Byzantine Hypertext Attribute Relationship Augmented Type Intelligence (BHARATI) algorithm is proposed to form specific semantic patterns of the poet for that specific poem and also for future Internet Tamil on Devices (IToD) technology.

CONCLUSION

The softwares designed either for web or App prove that focus on Tamil is being given by the programmers, engineers, scientists and tamil lovers all over the world. Eventhough, our country is quite popular for its usage in english in software industry, having access to application in native language is very much realised by the people, officials and governments. No latest area in computing can be left out. Work is in progress using Artificial intelligence, Deep learning techniques. If this move continues, definitely, Vision 2023 framed and aimed by the government of Tamil Nadu would be fulfilled and our state would be in the forerunner in economic development.