SIMPUTER

A seminar report submitted to
Dr. Babasaheb Ambedkar Technological University, Maharashtra
in partial fulfilment of the requirements for the award of
the degree

Bachelor of Technology

In

Computer Engineering

submitted by

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(III Semester)

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DEPARTMENT OF COMPUTER ENGINEERING

Certificate

This is to certify that the seminar report titled

SIMPUTER

is a bonafide work carried out in the III^{rd} Semester

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in partial fulfillment of the requirements for the award of the degree in Bachelor of Technology, Computer Engineering

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Place: BIT, Wardha
Date: April 20, 2022

Declaration

I hereby declare that the seminar report titled **"Simputer"** submitted by me to the Bajaj Institute of Technology, Wardha, in partial fulfilment of the requirement for the award of Degree of B. Tech in Computer Engineering is a record of bonafide seminar work carried out by me under the guidance of Miss.Urvashi N. Pote.

I, further declare that the work reported in this seminar report has not been submitted either in-part or in-full for the award of any other degree in any other Institute or University.

Report Title: Simputer
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Place: BIT, Wardha

Acknowledgment

(TEXT) to seminar guide (TEXT) to Head of the Department of Computer Engineering (TEXT) to the Principal, Bajaj Institute of Technology, Wardha (TEXT) to all others (if any) if you have collected any data or carried out seminar with them.

Date: April 20, 2022
Place: BIT, Wardha

Abstract

A rapid growth of knowledge can only happen in an environment which admits exchange of thought and information.Indeed, nothing else can explain the progress of science in the last three hundred years.
Technology has unfortunately not seen this freedom too often. The solutions to bridging the much more and talked about digital divide can come from within the developing world itself Problems of access to telecommunications in the developing world have often paled into insignificance beside those of gaining access to a working computer capable of connecting to the internet.
For a vast mass of the rural poor for whom a computer is probably as remote an option as a trip to the moon, the Simputer can well become the power button to prosperity.

Simputer (Simple Computer) is a low-cost, portable alternative to personal computers.It is pegged as the first of its kind in the world as it promises to ensure that knowledge of English is no longer a barrier to handling a computer.
It permits simple and natural, user-friendly interfaces based on sight, touch and audio.

Keywords- ***keyword 1*****,** ***keyword 2*****,** ***keyword 3***

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Chapter 1

INTRODUCTION

• Even the poorest of the poor will pay for the service, if that service improves in some way their quality of life.Several corporates are now addressing rural markets and they have the need for information and communication infrastructure in remote rural locations.

• For achieving this the Simputer project was conceived during the organization of Global Village, an International Seminar on Information Technology for developing countries, conducted during Banglore IT.com event in October 2001.

• If the right service is made accessible in the right way information technology can impact the lives of people all over the world.The Simputer is a low cost portable alternative to PCs, by which the benefits of IT can reach the common man.It has a special role in the third world because it ensures that knowledge of English in no longer barrier to handling a computer.

• The Simputer is a self-contained, open hardware hand held computer, designed in environments where computing devices such as personal computers are deemed inappropriate.

• It's simple, it's portable. At about Rs. 9,000 per piece, it's highly affordable. It is compatible with your everyday PC, helps you check e-mail, browse the Net, keep accounts, and get information.When the invention of the Simputer(Simple Computer) was announced in 2001, it instantly captured the imagination of the world. The venerable New York Times called it the most important invention of 2001 ahead of Apples G4 and Microsoft's Windows XP operating system.

• Here was a computer that was rewriting every rule associated with computers. The goal of the Simputer project is to harness the potential of Information and Communication Technology (ICT) for the benefit of the weakest sections of society. The software developed by the Simputer Trust will be under GNU GPL and the hardware developed will be under Simputer General Public License (SGPL).

• The Simputer is also known as a Simple Inexpensive Multilingual Computer, is important in surveying its projected uses. The Simputer was originally planned to be a stand-alone computing device with a simple user interface, and features like speech

synthesis that made it work for very low-attainment users. Various usage models were considered, but the key to the 'Inexpensive' aspect was the shared model.

• The device was to enable large groups of users to share one device, possibly purchased communally. Individual users were expected to own smartcards that enabled them to store their information offline.

• A potential owner for a Simputer would thus be a village council, or a cooperative, or any group of people willing to share it. Public funds could potentially be applied towards such purchases.

• The other trustees are Vijay Chandru (IISc), Shashank Garg (Encore), Vivek.K.S (IISc), Swami Manohar (IISc), Mark Mathias (Encore), and V Vinay (IISc). Rahul Matthan (Trilegal) is the legal counsel for the Simputer Trust and has played a key role in defining the Simputer General Purpose License.

Figure 1.1: Interface of Simputer.

Chapter 2

LITERATURE REVIEW

2.1 Literature Review

• Literature survey detail :

Sr. No.	TOPICS	Survey Detail
1.	Introduction	https://en.wikipedia.org/wiki/Simputer
2.	System Architecture	https://vijay-chandru.squarespace.com/s/simputer-paper-2005-AKN75.pdf
3.	Feature	http://www.123seminarsonly.com/Seminar-Reports/005/40173814-SIMPUTER.pptx
4.	Interface	https://www.google.com/search?q=simputer.html
5.	Application	http://www.123seminarsonly.com/Seminar-Reports/005/Simputer.html
6.	Advantage and Disadvantage	http://www.123seminarsonly.com/Seminar-Reports/005/Simputer.html
7.	Research Paper	https://vijay-chandru.squarespace.com/s/simputer-paper-2005-AKN75.pdf

Table 2.1: Literature Review.

Author and Year of Publication

The Proptotypes are Launched (April 25th, 2001)

- The Trustees shown below and Rahul Matthan (Trilegal), the legal counsel for the Simputer Trust who played a key role in defining the Simputer General Public License, received the nations hghest honour for innovation in information technology, the Dewang Mehta Award, the first time it was awarded in 2002. The Simputer prototypes were launched by the Trust on April 25th, 2001 and the complete design details of the Simputer have been made available on the web site (www.simputer.org).

Standing L to R: Swami Manohar, V Vinay, Vijay Chandru, Vinay Deshpande
Sitting L to R: Mark Mathias, Shashank Garg, Ramesh Hariharan

Courtsey: Frontline Magazine

Figure 2.1: Founder's of Simputer Device.

- The Managing Trustee of the simputer trust is Mr.Vinay Deshpande. The other trustees are Vijay Chandru (IISc), Shashank Garg (Encore), Vivek.K.S (IISc), Swami Manohar (IISc), Mark Mathias (Encore), and V Vinay (IISc). Rahul Matthan (Trilegal) is the legal counsel for the Simputer Trust and has played a key role in defining the Simputer General Purpose License.

Objective

- Even the poorest of the poor will pay for the service, if that service improves in some way their quality of life.Several corporates are now addressing rural markets and they have the need for information and communication infrastructure in remote rural locations.
- For achieving this the Simputer project was conceived during the organization of Global Village, an International Seminar on Information Technology for developing countries, conducted during Banglore IT.com event in October 2001.
- If the right service is made accessible in the right way information technology can impact the lives of people all over the world.The Simputer is a low cost portable alternative to PCs, by which the benefits of IT can reach the common man.It has a special role in the third world because it ensures that knowledge of English in no longer barrier to handling a computer.

Contribution

- "This provides us several benefits. We benefit from the experience of the vast global pool of experts working on software problems. We also have access to

the entire source code, which enables us to deploy the software on any hardware platform that might be cost-effective for us at a certain point in time. It will also have the benefit of peer review processes that ensure a relatively robust and stable end product," says Swami Manohar, an associate professor in the department of computer science and automation of IISc, and one of the seven trustees.

- The initial version of the Simputer is based on a Strong ARM CPU.The Strong ARM is a Reduced Instruction-set microprocessor, which is designed for embedded applications. Several vendors provide ARM based chips with a high level of integration and high performance at a relatively low level of power consumption.
- " The aim is to make Simputer a low cost alternative device to PCs, by which IT can reach the common man,". "That's why it features touch screen and local language software interface."
- Four trustees are from IISc and the remaining three from Encore.Vinay Deshpande, the founder CEO and MD of Encore, is the managing trustee of the Simputer Trust.
- All that the trust is going to do on April 25 is to display about 10 Simputers and hold several demonstrations of them, at the JRD Tata Auditorium, National Institute for Advanced Studies, IISc, Bangalore. This is to indicate that the Simputer platform is ready for the next stage, namely, commercial manufacture and deployment.
- In other words, Simputers will not be available in your neigbour hood computer store on April 26. Private companies will have to come forward to take the licenses for manufacturing Simputers.
- The trust has liberally borrowed its philosophy from the concept of" free software" propounded by a worldwide group of software developers who have created a new paradigm for the development and deployment of such popular software as Linux and also benefited from pioneering work done by the Free Software Foundation.
- The trust will still retain ownership over the basic platform so that it can continue to guide its development based on the philosophy of the Trust. "The system software of the Simputer, since it is Linux based is under GPL," say the trustees.
- "We have been working on a license similar to the GPL, but applicable to hardware. We realized, after considerable discussions, that hardware has significant differences that precludes the possibility of using a simple extension of the software GPL."
- "We now have the first draft of the Simputer General Public License that we believe to be a practicable license which at the same time facilitates the rapid spread of Simputers."
- "We invite comments from interested manufacturers and others on the SGP, which was drafted by Rahul Matthan, the legal counsel of the Simputer Trust." The trust estimates that it will then take a company at least three months to start manufacturing these devices for general use.

System architecture

- The Simputer which is a SIMple compUTER, is known as, Simple Inexpensive Multilingual Computer Simputer, in terms of screen size (320x240), memory capabilities(32MB RAM) and the OS (GNU/Linux). It runs on an Intel strong-arm chip. The chip is known for its low power consumption. The Simputer runs on three AAA batteries or off the mains. It can also use rechargeable batteries, but the charger is not built in. Thus, the Simputer is basically a low-cost computer with multiple connectivity options. It will be modular and based entirely on free software from the Open Source Initiative. Its primary input will be a touch-sensitive overlay on the LCD display panel.

- One needs to understand the Simputer's main features text-to-speech synthesis in Indian languages, pen-based input (called tap-a-tap), portable palmtop-sized footprint, Linux-powered, open hardware licensing, and the smart-card interface, among others.

- The intended use of these features (and hence the Simputer) is for rural areas. The text-to-speech features, portable size and low power requirements are meant to be of immense use to people in these areas. Some of the applications that have been suggested are micro-banking applications, rural commerce, and micro-credit applications.

- Simputer has an edge over any palmtop. Palmtops can't compute in Indian languages and don't have text-to-speech interfaces for Indian languages. They are also not aimed for the mass market that the Simputer is targeting, and still have a more elitist user community.

- The business applications of Simputer in Micro-banking or sales force automation is useful. Insurance companies in India are looking at using this for each of their insurance agents who go around. Now, they don't have to carry all these huge books that they used to carry, with details of all the policies. They just carry the Simputer with all the information already fed into that.

- The impact of this feature coupled with the rich connectivity of the Simputer can be dramatic. Applications in diverse sectors such as micro banking, large data collection, agricultural information and as a school laboratory is now made possible at an affordable price.

- It's not only that it costs less than 200 (Rs. 9,306) but also what the Simputer will be able to do. Put together by several academics and engineers – in their spare time – this Internet device will have the potential to help even non-literate users to surf the Net and e-mail.

- Once commercialized and put out in the market – its designs will be freely released to companies for reproduction – the Simputer can not only be used as a device for individuals to access the Net, but also by communities Sthrough kiosks. A smart-card interface is being worked on to facilitate micro banking.

- The non-profit Simputer Trust, a group of academics and technologists from India's computing industry, is creating the multi-purpose device. Their vision is

to create not only a computer, but also an "evolving platform for social change" throughout the world by bridging the digital divide. They wanted a device that could be used by literate people in Third World nations who lack computer skills, as well as by illiterate people. The Simputer Trust is created basically to develop technology that will help take information technology to rural areas.

- Its initial target is India. And if it is applicable in India, it will also be applicable in the rest of the third world.
- The Simputer had a tremendous response from all over the world -from South America to Australia and every other country in between, including some of the developed countries. Even the developed countries are interested in seeing how they could use it; not just for applications for the poor, but also applications for the urban elite, the urban affluent.
- The Simputer is the result of coming together of scientists form the Indian Institute of Science, Bangalore and technologists of a software company with a broad imperative to harness its potential for the benefit of all sections of society. The Simputer is not a projection of an end product but of an evolving platform for social change.

Conclusion

Simputer is a low-cost multilingual, mass access handheld device that uses Indian language user interfaces to provide information technology based services to the multilingual population of India.

- Portable and a mobile device
- Sharable and affordable
- Integrated Smart Card and Modem
- Multi-lingual text-to-speech system
- IMLI makes knowledge of English no longer a barrier to the use of IT
- Images allow universal comprehension of IML content
- Relies on non-proprietary software

The Simputer platform technology, being a cost effective platform can be used to develop several other products such as thin clients, cost effective e-commerce device and in embedded systems.

2.2 Summary of Literature Review

Even the poorest of the poor will pay for the service ,if that service improves in some way their quality of life.

"The Simputer a cheap, pocket-sized computing device designed for use by rural populations in India has been hailed as a breakthrough in bringing the world of computing to the poor".

Summary about my topic "Simputer" device are follows :

- All the information about Simputer Device is tell in this report.
- Introduction to Simputer device in brief.
- How Simputer device works or working ?
- It's system architecture in this we see hardware,system software and application software.
- What are the features of Simputer?
- Interface of simputer looks like.
- Application of simputer device and also use in real life.
- What are the advantage and disadvantage of simputer device.
- What are the future plan or work done by the device.
- There are two research paper that i discuss in this report.

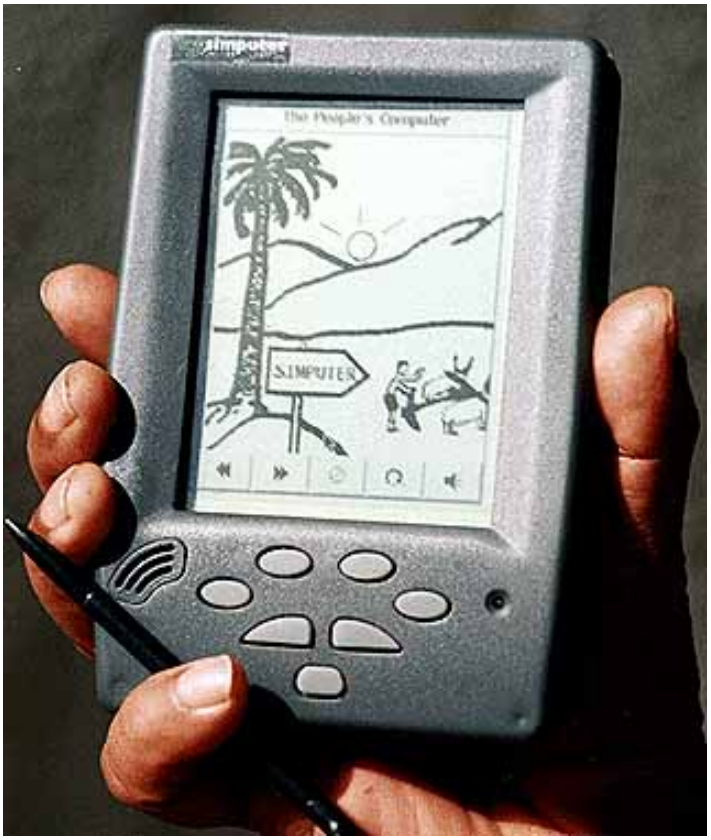

Figure 2.2: Simputer game.

Chapter 3

SYSTEM ARCHITECTURE

3.1 HARDWARE

CPU	Intel's Strong ARM SA-1110 CPU running at 206 MHz
Memory	16-64 MB of SDRAM 08-32 MB Flash for non-volatile storage
Display Options	240x320 LCD Colour or Monochrome Display Panel with backlight
Input Device	Touch-panel Overlay on LCD Display with a plastic stylus (Pen) Direction and Selection Keys
Audio Interface	Audio Codec Support for external head-set
SmartCard Interface	SmartCard Reader/Writer
USB Interface	USB Port
Connectors in	SmartCard Connector
Basic Unit	RJ-11 Telephone Jack USB Type-A Connector AC Adapter Input
Power Supply	2xAA-sized NiMH batteries Internal charge management Operates with external AC Adapter
Dimensions	Approximately 8cm x 13cm x 2cm .

Table 3.1: Hardware.

3.2 System Software

Operating System	Linux Kernel 2.4.18
Soft-Modem	V.34/V.17 Data/Fax Modem Technology
Network Protocols	TCP/IP, FTP, Telnet, PPP, HTTP etc.

Table 3.2: System software.

3.3 Application Software

IMLI	IML browser
Tapatap	Input method
Dhvani	Text-to-Speech Software
Internet	Access Browser, Email, File-Transfer
Music	MP3 Player
PIM Applications	Notepad, Address Book, Calculator

Table 3.3: Application.

Figure 3.1: Simputer connect to moblie.

Chapter 4

FEATURES

Internet :

1. Internet Browser
2. Email
3. Headlines

Play :

1. MP3 Music Player
2. Photo Album
3. Games
4. E-LibraryEducation

Work :

1. Khatha
2. Paper
3. Notebook
4. Bhasha Notebook
5. Voice Recorder

Tools

1. Calendar
2. Panchanga
3. Smart Card

4. Health Manager
5. Conversion Calculator
6. World Clock
7. Stop Clock
8. Address book
9. Calculator
10. Network

The new Simputer range from Encore thus attempts to meet the requirements of various market segments. The entry-level Simputer will, at production volumes, be priced at about 210, and has a monochrome LCD, 16MBof DRAM and 8MB of flash memory, IrDA and USB interfaces and audio connectors, but no modem. Some of the enhancements include a built-in battery charger, a real-time clock, and support for J2ME.

The top-end Simputer, priced at about 480, has a color display,32MB of flash memory and 64MB of DRAM, a built-in modem, and a pocket-sized cradle with a Compact Flash expansion slot for memory cards and wireless connectivity.

In addition to the cradle which ships with the high-end model, Encore is also designing specialized cradles with built-in functions such as a micro printer, keyboard, and support for GSM and 802.11 wireless connectivity.

The company is opening up to designers the interface between the Simputer and the cradle to encourage others to design their own specialty cradles.

Figure 4.1: Simputer connect a Banking Card.

Chapter 5

INTERFACE OF SIPMUTER

The Simputer is Multi-lingual :

Figure 5.1: Muliti-language in Simputer.

Smart Card Personaliser and Transactor :

Figure 5.2: Smart Card inserted.

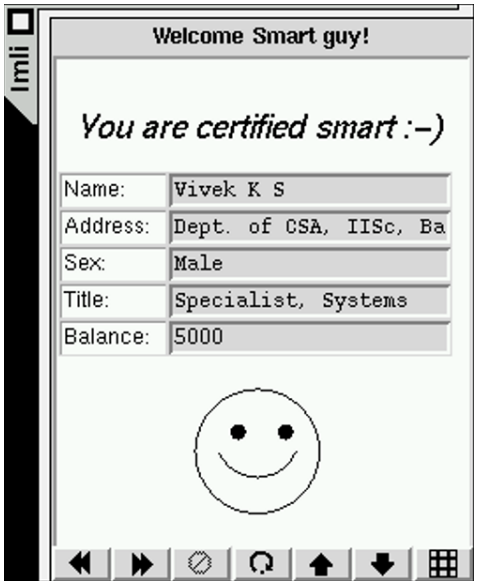

Figure 5.3: Transactor message.

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Chapter 6

APPLICATIONS

6.1 E-governance

- Smart Card enabled citizen services(Voter IDs, driving license, ration card, etc.)
- Data collection and processing
- Land and revenue records
- Education, health care and information access
- e-mail device

6.2 Microbanking

- A Smart Card pass book
- Synchronizing transactional details through modem connectivity
- Interactive multi-lingual transaction log book
- Human error eliminated, increasing the integrity of the calculations.

6.3 Education

- Interactive text books
- Massive data storage at low costs compared to books
- Universal interface for education in any language at any level
- Automatic adjustment of content based on progress.
- Entertaining and engrossing medium
- Regular download of new educational data without reliance on infrastructure or additional expense

6.4 Communication

- Cheap communication devices..
- High performance communication technologies for the masses
- Data and text transmission, as well as voice
- Potential centralization of the communications network
- Simplifying usage through storage of preferences of each user on a Smart Card
- Simplifying communication by removing the barriers of language and literacy
- Universality of data transmission achieved through use of icons and text-to-speech

6.5 Market pricing and agriculture

- A friendly companion to know the current prices of his produce
- A trader looking for right market to sell or buy his goods
- An interactive assistant for a farmer to implement the best farming practices
- Both market and weather forecasting data instantaneously distributed
- Digitization of the barter system via organization of secure transactions using smart cards

6.6 Health

- Interactive data collection device for a health worker
- Simple education medium for healthy practices
- Preliminary diagnosis of common ailments via an expert system
- Health schedules, data storage, advice on livestock
- Communication barrier broken between health service workers and rural patients
- Telemedicine : remote health care advice

6.7 Technology in everyday life

- Usage in restaurants to automatically report orders to the kitchen
- Digital Assistant and diary options for personal home use
- Portable entertainment on a versatile platform
- Distribution network organization; Simputers carried by delivery agents

- Inventory management made easy
- Integration with Global Positioning Systems for directions and way finding
- Global satellite digital broadcasts for educational and entertainment purposes

Goverment give Simputer to rural people :

Figure 6.1: Poor people can handle Simputer.

Chapter 7

ADVANTAGE AND DISADVANTAGE OF SIMPUTER

7.1 Advantage of Simputer :

- Simputer is a small, cheap device, similar to personal digital assistant.
- The Simple to use,perceptual computing
- The radical simplicity of universal access
- Rich in interfaces
- Soft modem
- Smart card
- Infra red data access
- USB port ,Audio port
- Designed to be shared(smart card personalizer)

7.2 Disadvantage of Simputer :

- Data inaccuracy.
- Require Training Of Maintenance Staff.
- Information Overlad.
- Software unreliability.

Chapter 8

CONCLUSION

Simputer is a low-cost multilingual, mass access handheld device that uses Indian language user interfaces to provide information technology based services to the multilingual population of India.

- Portable and a mobile device
- Sharable and affordable
- Integrated Smart Card and Modem
- Multi-lingual text-to-speech system
- IMLI makes knowledge of English no longer a barrier to the use of IT
- Images allow universal comprehension of IML content
- Relies on non-proprietary software

The Simputer platform technology, being a cost effective platform can be used to develop several other products such as thin clients, cost effective e-commerce device and in embedded systems.

Simputer holds promise for bringing low cost computing to poor countries. Given the high illiteracy rates in developing countries, the devices uses image and sound as primary outputs and touch as its primary input.

It employs Unicode and so it support multilingual text along with text to speech capabilities.

Developers said the simputer is somewhere between a personal digital assistant and a PC given its power, storage capacity, display size and smart card based connectivity.

The production began in March 2001 the final product is available on the market on the end of 2002

Chapter 9

FUTURE WORKS

The Simputer which is a simple computer, has many advantages where a common man can easily use.
The goal of the Simputer project is to harness the potential of Information and Communication Technology (ICT) for the benefit of the weakest sections of society.

Future enhancements are also possible and they are

- Mobility(GSM, Bluetooth/802.11B, GPS)
- FM radio
- Voice recognition software
- Camera

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Appendix A

POSTER

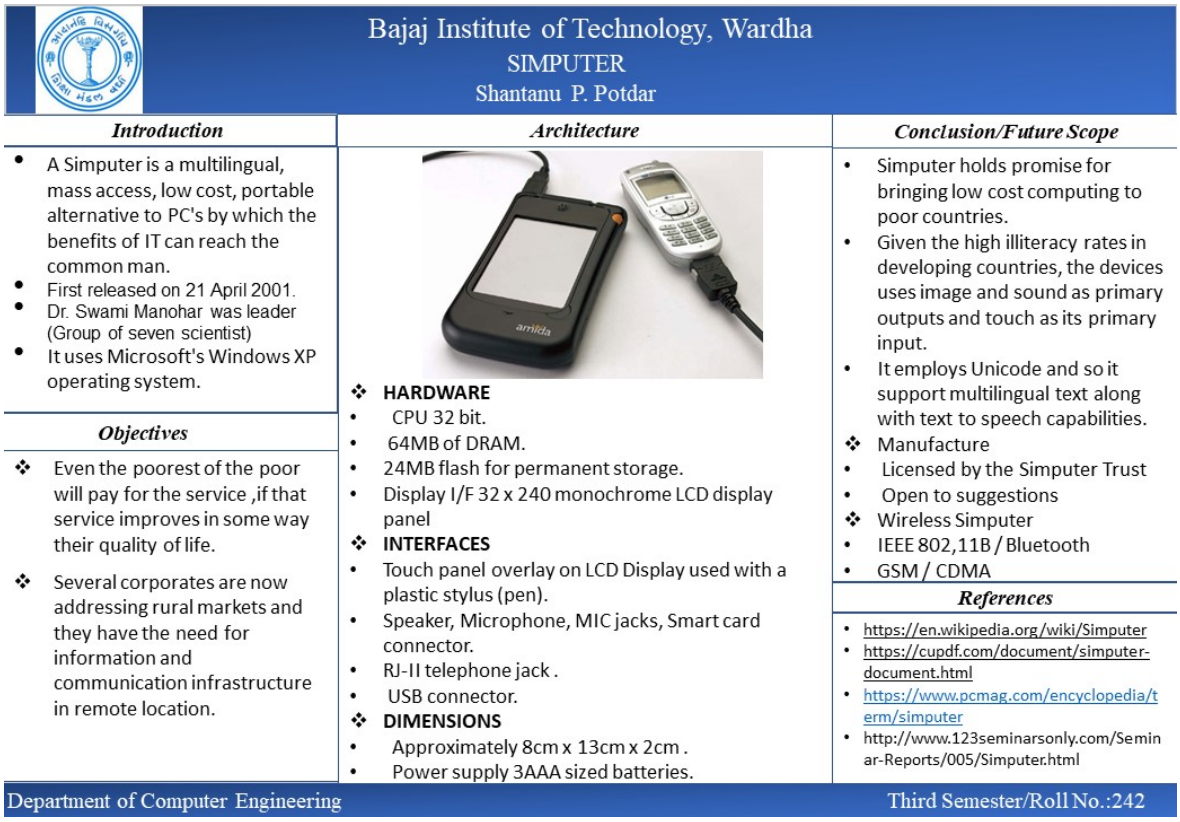

Figure A.1: Poster of Simputer.

Appendix B

RESEARCH PAPER

1. Prof AKN Reddy's "TALK TO SIMPUTER TRUST" (15 MAY 2001)

- Your launch was one of the most inspiring events in my recent life.
- What inspired me was :
  - Your teamwork
  - The technical excellence
  - The balanced emphasis on hardware and software
  - The attention to detail
  - The interaction with users
  - The social concerns
  - The articulation of a perspective
- Like many others, I felt that we were at the cutting edge of history and watching the salvation of India
- But the real reason for my excitement was that the whole atmosphere was reminiscent of the launch of ASTRA in 1974 over 25 years ago
- ASTRA was :
  - An informal group of like-minded scientists
  - Inspired by a shared vision that our deep concern for deprived rural masses could be implemented through the instrument of S T
  - Based on the synergy between social concerns and technical excellence
  - A group with intellectual excitement, sense of innovation, frontier spirit and harbingers of hope rather than prophets of despair
- ASTRA had a meteoric rise :
  - It very soon became a world leader in almost every area it touched It acquired an international reputation

  - It was flooded with visitors including the PM
  - It was publicised, e.g., the BBC film "West of Bangalore"
  - It defined a new paradigm for R D – identify topics through a study the immediate environment rather than following the West

- After about 15 years, the meteor burnt out :
  - The movement became a department
  - The fervour became routine
  - The voluntary commitment became jobs and career
  - The openness of learning system became the closed mindset of a group avoiding peer review
  - The social concerns disappeared
  - The partnership with villagers became a hierarchical bureaucratic top-down approach
  - The power of the market was extolled without seeing the limits of the market
  - The onslaught of LPG could not be, withstood
- At my Keynote Address to the 25 year review of ASTRA on July 20, 2000, I revealed the changes in ASTRA through the SWOT analyses of 1974, 1989 and 2000 :
  - I argued that a sustainable institution was characterised by relevance, excellence, governance and financial stability.
  - I urged ASTRA to re-affirm its socioeconomic objectives, to induct new people, to strengthen old areas and initiate new areas
  - I identified IT and Biotechnology as the new areas
- Everyone listened spellbound... but nothing has been done
- Then came the Simputer launch
- But it must he noted that the Simputer came from outside ASTRA which missed the significance of the Simputer – "none so blind as those who will not see"
- The Simputer is a break-through because:
  - It bridges the digital divide
  - It is a new road to rural empowerment in which illiteracy is not a road block (cf. my 5 year-old granddaughter Aqeela)
  - It links IT and Sustainable Development
  - It forges the badly required bond between advanced ST and the people - in which there is flow of knowledge from the people and to the people
  - It is a world leader
- It also throws new light on the pro- and anti-LPG positions and shows a new path

- Someone should do the theorizing. This is the only lacuna 1 see in the Simputer effort – there is no sustainable development analyst. Had I been 20 years younger, 1 would volunteer. Now my advice is: don't turn to any gurus with entrenched positions. Get a person from Bangalore as young as you – from the National Law School or from IIMB or an economist
- A word of caution
  - as you become more successful and as you grow, you will have to institutionalise
  - institution's are built by charismatic pioneers
  - make sure that you identify all the elements of charisma and creativity and inspiration and institutionalize those elements

2. PRESIDENT APJ KALAM'S COMMENTS AT THE LAUNCH OF AMIDA SIMPUTER

- I am glad you are launching the indigenously developed simputer with the academy, industry and academy developed entrepreneurs. This joint venture between Indian Institute of science, Bharat Electronics, Pico-peta Ltd., is the first example of such partnership in the country. I greet the entrepreneurs led by Dr. Swami Manohar, and from industry Dr. GopalRao, the Chairman and Managing Director, BEL, and from Indian Institute of Science Prof. Balakrishnan and other participants of this programme.
- I recall a presentation by Dr. Swami Manohar and his team on the development of Simputer, where Prof. Balakrishnan took me. What I like most about AMIDA Simputer venture is, the academic institution has generated entrepreneurs, which is the need of the hour for the country.
- It was a visionary job done and now I am happy to note that the product is getting launched and has a large market potential. The partnership will ensure a high tech cost effective product for multiple applications such as e-governance and citizen centric services in language independent environment using open source operating system. I am sure you will keep pace with the technological improvements taking place in the field and also work for providing wireless connectivity to the simputer, which will enhance its application potential.
- I have one message for you, you have to constantly improve the product and make it competitive. The competitiveness has three dimensions, one is cost effectiveness, second is quality that what you specify that is what you deliver and third is deliver just-in time when the market needs.
- I congratulate all of you on this mission and I wish you all success in bringing out many more cost effective products for taking the technology to the common man especially to the rural India.