VISVESVARAYA TECHNOLOGICAL UNIVERSITY
Janana Sangama, Belgavi - 590 018

PROJECT REPORT ON

Title of the Project

Thesis submitted in partial fulfillment for the award of degree of
Bachelor of Engineering
in
Electronics & Communication Engineering

Submitted by

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Under the Guidance of
Name of Guide
Designation of Guide

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
(Accredited by NBA for the acadamic Years 2018-19, 2019-20 and 2020-21)

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Channasandra,Dr.Vishnuvardhan Road,Bengaluru-560098

2019-20

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CERTIFICATE

Certified that thesis work entitled "Title of the Project Report" is carried out by Student-1, Student-2, Student-3, and Student-4 in partial fulfillment for the award of Bachelor of Engineering in Electronics & Communication Engineering of Visvesvaraya Technological University, Belgavi, during the year 2019-2020.

It is certified that all corrections / suggestions indicated for internal assessment have been incorporated in the report. The project report has been approved as it satisfies the academic requirements in aspect of the project work prescribed for the award of degree of Bachelor of Engineering.

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Name of the Guide	Dr. Vipula Singh	Dr. M K Venkatesha
Designation	Hod	Principal

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Name of the examiners	**Signature with date**
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DECLARATION

We here by declare that the entire work emobodied in thsi project report titled, "Title" submitted to Visvesvaraya Technological University, Belagavi, is carried out by us at the department of Electronics and Communication Engineering RNS Institue of Technology, Bengaluru under the guidence of Name of the Guide, Designation. This report has not been submitted in part or full for the reward of any Diploma or degree of this or any other university.

Name	USN	Signature
1.	**1RN11EC0**	.....
2.	**1RN11EC0**	.....
3.	**1RN11EC0**	.....

Acknowledgement

"**Acknowledgement** - This is where you thank all those people whom you've rarely (or never) met but whose inspiration, motivation, encouragement, blessings etc. etc.

Name1
Name2

Abstract

LaTeX eases our pressure in writing thesis & reports because of its powerful features such as automatic hyphenation, table of contents, figures & tables, powerful bibliography tool, citations,Automatic Numbering of Chapter, sections, figures & tables, its beautiful fonts, professional output...

Writing too much of code for gives bad impression on LaTeX. But now we have numerous gui tools like gedit-latex-plugin, TeXmaker, Lyx & emacs, which are very much user friendly.

This VTU-project-report-template is written using popular document class, "Memoir". In the coming chapters, we hav given small help manual required for writing report & at the end about template

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Chapter 1

Project

1.1 Synopsis

Title: Remote servicing of IPTV using DirectFB and VNC.

1.1.1 Introductory Example

Assume you have an IPTV in your home and it has some technical problem. It will be better if the TV technician can solve the problem remotely over Internet.

1.1.2 Problem Definition

The project involves 2 primary objectives

1. Exploring VNC system module of DirectFB and building it onto the target IPTV
2. Extending remote accessibility of IPTV from outside LAN

1.1.3 Existing features

DirectFB features and VNC features have been implemented in IPTV independently.

1.1.4 Our role in project

The primary goal is establishing communication between IPTV and a remote PC for remote serviceability of IPTV.

1.1.5 Hardware requirements

IPTV

Internet Protocol television (IPTV) is a system through which Internet television services are delivered using the architecture and networking.[2]

NXP_TV550

NXP_TV550 is a single chip LCD TV platform that allows viewers to enjoy HD digital television and internet content with excellent picture quality on mid-range televisions. This module has been provided by PHILIPS and the VNC server is to be ported on this module.

1.1.6 Software tools available

VNC

VNC is a remote control software which lets you see and interact with desktop applications across any network. The software has a widespread user base from individuals to the multi-national companies.You can use VNC to view a Windows 7 desktop at the office on a Linux or Mac computer at home as shown in Figure 1.1 [3]

Figure 1.1: VNC server-client model

1.1.7 Project Organization

The project is split-up into 6 stages as shown in table :

Sl No	Work	Duration(in Weeks)
1	Information Collection on DFB & VNC	1
2	Information collection on development tools	2
3	Integrating DirectFB & VNC	8
4	Cross Compiling & Porting	2
5	Building JPEG libraries	2
6	Testing	2

1.1.8 Project Execution

We plan to work in these lines step-by-step

- Familiarize with dfb. Write simple applications. Try ‘windowed mode and ‘multi application mode on target running on X11 system module.
- Ensure proper configuration and successful operation in these modes.
- Run these applications on IPTV by booting from the root system on the
- USB drive device. Control applications using putty.
- Compile and explore fusion modules.
- Explore vnc system module and how it provides interface options to libvnc

References

[1] Andrew S. Tanenbaum: *Operating Systems Design and Implementation*, Prentice Hall, 2006

[2] About IPTV on Wikipedia `http://en.wikipedia.org/wiki/IPTV`

[3] About VNC on Wikipedia `http://en.wikipedia.org/wiki/Virtual_Network_Computing`

[4] LibVNC server `http://libvncserver.sourceforge.net`

[5] DirectFB documentation `http://elinux.org/DirectFB`

[6] jointSPACE documentation `http://sourceforge.net/apps/mediawiki/jointspace/index.php?title=Main_Page`

[7] PuTTy on Wikipedia `http://en.wikipedia.org/wiki/PuTTy`

[8] Nicola L. C Talbot and Gavin C. Cawley. A fast index assignment algorithm for robust vector quantisation of image data. *In Proceedings of the I.E.E.E. International Conference on Image Processing*, Santa Barbara, California, USA, October 1997.

Appendix A

ATMega 8

Here is the datasheets of various ATmega8