

Mekelle University- Mekelle Institute of Technology

Project title: Combining GNU Emacs flavors

Group members:

Name	ID
Hayelom Mekonen	MIT/UR/117/11
Bashay Tikur	MIT/UR/028/11
Zayd Fshatsion	MIT/UR/./11
Bethelihem Fitsum	MIT/UR/./11

Submitted to: Haftu Hagos

Submission Date: 2024-11-03

Mekelle University- Mekelle Institute of Technology

Abstract

This project aims at enhancing user experience with using powerful text editing capabilities of emacs and using version control(magit) easily and efficiently. Lastly if you want a complete keyboard based display manager this is project will try to solve it.

Mekelle University- Mekelle Institute of Technology

Table of Contents

- [1. Introduction](#)
 - [1.1. What is GNU?](#)
- [2. General Objectives](#)
- [3. Specific Objective:](#)
- [4. Problem statement](#)
- [5. Proposed solution](#)
- [6. Implementations and usage](#)
 - [6.1. Emacs for Writers, Researchers and Planners](#)
 - [6.1.1. Org mode](#)
 - [6.2. For Developers](#)
 - [6.2.1. Magit](#)
 - [6.3. HTML developer](#)
 - [6.4. EXWM](#)
- [7. Future work](#)
- [8. Reference](#)

Mekelle University- Mekelle Institute of Technology

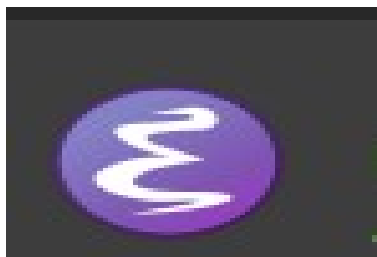
1. Introduction

- This project is a collection of code bases that can be easily integrated to a vanilla emacs text editor that can make the editor more powerfull and robust. The package includes the killer features of emacs, **org mode** and **magit**.
- Magit is an emacs version of git, which is a porcelain of git. Where as **org mode** is a powerfull note taking, planning, outlining mode inside emacs.
-

1.1. What is GNU?



- GNU is a recursive acronym for "GNU is Not is Unix". Recursive acronym is a type of acronym that refers to its self.
- Other recursive examples familiar in Linux world which are inspired by GNU are:
 - PHP: PHP hypertext preprocessor
 - PIP: Pip installs package
- GNU/Linux is a free and open source OS by R.stallman and Linus Torvalds
Stallmall is the creator of GNU and is the father of free software movement.
- One of the prominent products of GNU project is Emacs(Editor Macros) text editor and that is our project's main focus.



Mekelle University- Mekelle Institute of Technology

GNU Emacs, the extensible, GNU Emacs, the extensible,
customizable, self-documenting real-time display editor

2. General Objectives

- Understanding Free and open source Software(FOSS)
- Version control system and repository management
- Note taking experience
- Knowing GNU/Linux display manager

3. Specific Objective:

- Exploring the free and open source software, particularly emacs
- Streamline git workflow via magit
- Knowing and using github for your code repository
- using a best practice of note taking experience using emacs org mode
- Getting out of GUI and getting closer to shell via CLI, which is a keyboard based and more powerful using EXWM(Emacs X windows manager)
- Familiarizing with GNU/Linux command line commands and more ...

4. Problem statement

- Nowadays everything is getting tied up to computers whether you are an author, journalist or programmer or in whatever field you're you need a way to store your data and manage your files. In today's world technology and your working environment is rapidly changing, so always trying to learn the environment and technology is headache. So, what if we have a powerful and robust text editor that will go with you when ever you go independently of the technology and the working environment. In this project we are trying to narrow the scope of emacs text editor and making more powerful and robust for managing almost all your text files and some of the common programming languages.

5. Proposed solution

- To make your text more powerful and work at different environment we are gonna create a separate code base for individual components, then integrate with the text editor when launching the app.

Mekelle University- Mekelle Institute of Technology

6. Implementations and usage

. N.B Even though the code is written in LISP programming language , this project's aim not to learn LISP programming language rather to streamline your workflow while you are using a PC.

Knowing these key combinations is not easy work, it needs some kind of learning curve, but once you become familiar with the environment you can do for everything that can be done by a computers.

Check all the codes in package itself which has a lot of information included with the code base that describe what each lines of code is doing. The code is written using LISP programming language

Software requirements to workwith

- git then you will install magit
- Emacs v >=28
- OpenJdk to work with Java
- Python interpreter to work python

6.1. Emacs for Writers, Researchers and Planners

6.1.1. Org mode

- Emacs Org mode is a powerful and flexible system for note-taking, task management, authoring, and project planning within the GNU Emacs editor. It provides a structured plain text file format, allowing users to create and manage complex documents, outlines, and lists in a fast and effective way.
- Key benefits of emacs org mode?
 - Streamline note taking experience
 - Managing your TODO(C-c C-t) lists with checkbox, and archiving them
 - creating schedule C-c C-s
 - Creating deadline C-c C-d
 - Executing different programming languages within a text
 - Links to websites (to create a link use C-c C-l and to follow the link C-c C-o) and linking to your own files.(for files you need to put the file first in the link buffer by hitting C-c l on beginning of file name, for creating a link is C-c C-l)
 - Managing your file using dired(C-x d) m for marking u for unmarking D for deleting, R for renaming ...

Mekelle University- Mekelle Institute of Technology

- Exporting your note, plan or outline to different formats
- To add in the org mode see the actual code implementation
- Let's go to demo...

6.2. For Developers

6.2.1. Magit

- Check if it is installed M-x magit-version RET
- Type C-x g to display information about the current git repository in a dedicated buffer, called the status buffer. Most git commands are commonly invoked from the status buffer.
- Move between sections using p and n. Type TAB to expand or collapse the section at a point. You can also use C-tab to cycle the visibility of the current section and its children.
- type s to stage the changes you made to a file and u to unstage a file.
- and then to commit your changes, type c. Then write a message and then type C-c C-c to actually create the commit.
- What about to push just type **P** to show all the available push commands and arguments and then **p** to push to a branch with the same name as local branch onto the remote configured as the push-remote.(If the push-remote is not configured yet, then you will first be prompted for the remote to push to).
- To add remote where to push on magit: Open your terminal then
 1. git remote add origin <https://github.com/your-repo-url.git>
 2. git branch -M main
 3. type P followed by p

Mekelle University- Mekelle Institute of Technology

Here are some of the basic Magit commands and their corresponding Git commands:

Git commands	Magit commands (on magit-status)
git status	C-x g
git add <file>	s(magit-stage-file)
git commit -m "msg"	c c
git push	P p(push-current)
git pull	F p(pull-from-upstream)
git branch	b b
git checkout <branch>	b c
git merge <branch>	m m
git branch -d <branch>	b d
git log	l l
git diff	d d
git clone <url>	c l

6.3. HTML developer

- Creating check box C-c C-c c
- Creating radio button C-c C-c r
- ordered list C-c C-c o
- unordered list C-c C-c u
- list item C-c C-c l
- tagging for image C-c i, C-c RET for <p>

Mekelle University- Mekelle Institute of Technology

.4. EXWM

- Using emacs as your main windows manager
- To boot to exwm first create a desktop application with the following data in it

[Desktop Entry]

Name=EXWM

Exec=sh *home/ertale/* emacs.d/exwm/start-exwm.sh

TryExec=sh Type=Application

X-LightDM-DesktopName=exwm

DesktopName=exwm

- Then create a link to /usr/share/xsession
- Bring some codes for exwm from github
- You can work by creating frames, windows,
- To create new window C-x 4 f and C-x 5 f for frame
- Switch to buffers via normal commands.
- another command for switching buffer: M-x exwm-workspace-switch-to-buffer
- Let's combine all of them and see them in the demo

Mekelle University- Mekelle Institute of Technology

7. Future work

- Customizing the actual editor in personalized manner
- Making seamless workflow for programmers without using GUI

8. Reference

1. emacs user manual
2. emacs org mode manual
3. Magit user manual
4. pro git reference
5. exwm tutorials from youtube