# CE 350: Project List

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## (1) MP3 Converter

Your car stereo system is only compatible with the MP3 file format; that is, it can only play CDs that contain MP3 files. However, your music collection has many multimedia formats like OGG and FLAC (check them out online).

On a typical Linux system, MP3, OGG and FLAC command line encoders and decoders are available.

Your program should display list of music files other than MP3 and make the user select the files to be converted and convert them to MP3 formats with the desired quality (check mp3 encoders documentation).

**Hint:** You don't need a direct conversion from OGG to MP3. First decode the file to uncompressed WAV format, then convert this file to MP3. Make sure you delete the WAV file when you are done.

## (2) Currency Tool

The Central Bank of the Republic of Turkey has a web page that contains daily currency information at http://www.tcmb.gov.tr/kurlar/today.html. The web page contains the daily currency rates for the Turkish Lira in plain text.

Your program should first grab this web page (for example, using wget), work on related lines only, let the user choose the input and output currencies and calculate the input value. For example, the user may select Euro for input and US Dollar for output.

## (3) Journal

You can use your computer to keep a private diary. When saved with a password, the diary can also be kept from prying eyes.

Your program should help the user select a date and create a daily entry for the date. It should save the entry as a file under a new name, possibly using a date-time stamp along with a password. The user should also be able to read previous entries.

**Hint:** You can use one of the compression utilities to support the encryption with password. ZIP and RAR files have support for password protection; of course you are welcome to roll your own.

## (4) Archive Utility

Compression is an important tool for a computer user. When compressed, files take smaller space on the hard drive. There are many compression algorithms and programs. Some of the most popular ones are ZIP and RAR. On Linux systems, gzip is used along with TAR, thus the extension tar.gz, where tar packs, without compression, and gzip, similar to zip and tar, compresses the archive.

Your program should be able to use at least two compression formats. The user should be able to select the files/folders to be compressed, or when a compressed file is opened, should be able select the files to be extracted.

### (5) CD/DVD Burner

Although there are many GUI tools for CD/DVD Burning, most of them depend on command line tools to get the job done.

The usual way to burn to a removable medium is to first create an image of the files. The common format is the ISO 9660 file system standard.

Your program should let the user to select files and folders that will be burned, copy them to a temporary directory, make an ISO image file out of that directory and write that ISO file to the removable medium.

### (6) Calendar

iCalendar is a computer file format which allows Internet users to send meeting requests and tasks to other Internet users, via email, or sharing files with an extension of .ics. Recipients of the iCalendar data file (with supporting software, such as an email client or calendar application) can respond to the sender easily or counter propose another meeting date/time.

Your program should be able to create an iCalendar file or able to read one in a simplistic manner.

### (7) Truva Administration

Truva is one of the servers in the network lab in our faculty. Its main purpose is to serve as a testing platform for activities in the network lab sessions. It has recently been formatted and it now runs Ubuntu Linux. Every term an account for every student is created on Truva. They are added to the group `stds`.

You should write an admin script that will create new student accounts from a text file which will be created by the data from OASIS. A sample file is given below. Every student should have an account name that is made up of lower-case letters that are absent of Turkish accented letters like ğ.

It should also be able to delete old accounts. It should clean up all student accounts before creating new ones.

Sample File:

12345678901 KAYA OĞUZ
32131433567 İLKER KORKMAZ
42783294738 MEHMET SÜLEYMAN ÜNLÜTÜRK
47583478399 UFUK ÇELİKKAN

*Encouragement: This script will be used in Truva if written successfully.*

**(8) Address Book**
Create an address book that will list, search, add, remove and update contacts. The script should be able to save and load contacts from a file. The format of the file is up to the student. The contact should at least contain name, surname, e-mail, phone number and address fields. However, it's better if it supports more fields. For example every contact may have more than one phone number, or another field of personal web page might also be helpful.

The script should also be able to import and export to and from a popular address book format, like vcard, Google CSV or ldif.

**(9) Syntax Highlighter**
A common feature of text editors is to highlight text of special interest (like keywords and variables) according to the programming language.

Write a script that will highlight keywords of one (or more) programming languages of your choice in a dialog window.

**(10) Download Manager**
A typical download manager downloads files simultaneously. Your script should be able to process a list of URLs, keep a list of downloaded files in history and should use the progress bar (gauge in dialog) to display the current download progress. You can use wget or any other command line tool to download files.