

# GSoC Application 2011 (GnuCash)

## Personal Profile

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**Title: Live news feed from financial newspapers as a GnuCash plugin**

## Abstract:

My idea is to implement a plugin within GnuCash which gathers live news feed from financial newspapers and brings it to the user without him/her having to open a browser and scan sites to see how his portfolio is performing. This plugin allows users to track the progress of his portfolio and if the user needs a detailed report, the link always opens in a browser. This plugin would be a first step towards making the GnuCash software a more internet based one.

## Benefit to the users:

Most users (including me and many of my friends who use it) use most of the potential of GnuCash including accounting for equities and bonds invested by them. While it gives a platform for them to keep a record of their equities, it is better to provide a more user-oriented personalized approach and this plugin comes into play scanning financial news feeds and bringing the news right into the window of GnuCash.

## Project Details:

GnuCash has a lot of features including accounting for equities and shares. However, apart from the math and calculation part, GnuCash does not have any plugin that allows the user to see

how his portfolio is performing and the finance news. I thought of creating a plugin which functions like an RSS feed in the GnuCash window itself and scans financial news from newspapers selected by the user beforehand. Thus, a personalised live news feed is available to the user in GnuCash itself. When the user clicks on the link, the web page would be rendered right inside a window in GnuCash.

Possible implementation methods available are:

- A webkit window which loads an HTML page with embedded javascript which is saved in the gnuCash's installation path.
- Using C code to implement gtk widgets
- Using C++ code to implement gtkmm widgets
- Using Scheme to write a plugin

I have seen and tweaked around the existing support for the first three technologies in GnuCash.

I have looked into some plugins developed using gtk and also the webkit rendering done for the reports in GnuCash. Support for gtkmm widgets is a relatively new functionality. Weighing the pros and cons of each implementation, I will be able to select the best one out of them and will try and get a good balance of both the aesthetic sense and functionality.

Currently, I am developing some test menu plugins similar to the bi\_import plugin and have familiarized myself with how the UI and backend code can be implemented. These plugins will be included under Tools in the menu toolbar. On clicking, the action will be called in the ui.xml file. I am working on different actions that a plugin can perform. I am very comfortable with HTML and javascript and I believe I can easily add more functionality to the RSS plugin using these technologies.

Also with respect to GnuCash functionality and working, I am going through a couple of existing minor priority bugs and getting more familiar with source code.

## **Deliverables:**

- A plugin wherein the user gets personalized live news feed from financial newspapers
- The plugin will have the following features:
  - The user can add feed urls through the Add Feed Window ([Mockup](#))
  - Edit and delete the feed urls and organize the feed urls into specific folders using the Properties Window of the plugin ([Mockup](#))
  - Webkit Window displaying the summary of the link in the feed, the user can click on the title to see the complete web page through a browser

If time permits I plan to include some of these functionalities described below. I intend to implement some of these ideas after the GSoC as an ongoing effort to improve the plugin functionality:

- Support for APML - Attention Profiling Mark up language

APML is an open standard (in APML.xml) that encapsulates our interest through our feed urls in an open standard way. Having this information, we can use it to communicate or choose proper feeds, enable/ disable feed based on our attention value.

- Offline availability of feed content and better organization of feed urls

Based on user input, the plugin chooses how much data (in terms of MB) should be cached for future offline reading and for how long. Also based on this information, we can suggest to users to delete feed urls that do not have updates for a threshold time, which can again be set by the user itself.

- User can remove specific news feed based on keywords.

Sometimes newsfeeds from a particular feed URL can be overwhelming and users might want to restrict the newsfeed by choosing only topics within a particular feed that they are interested in. This seems to be a challenging idea, but after implementing the current functionality of the plugin, I could decide on the feasibility of this feature. We can also make use of the APML profile to automatically enable/disable news items from news feed.

## Project Schedule:

### Before 23 May

- Study in detail the Glib library, and implementation of widgets and integration of plugins with the codebase of GnuCash
- Develop test plugins using the above mentioned implementation methods and weigh the pros and cons of them
- Bond with development community and ask for suggestions and feedback on the test plugins developed
- Work on the UI and back end design of the plugin

### 23 May - 11 June

- Develop the code to display the webkit window for displaying the RSS feeds within gnucash.
- Develop the menu for the plugin and other UI related work.
- Modify the makefile for including the plugin in the building and configuration step.

### 12 June - 11 July

- Develop the “user input setup” dialog box for the feeds.
- Develop code to allow users to create folders for related feed urls.
- Develop the Properties dialog box for the plugin.
- Document the code using doxygen.

12 July - 15 July

Mid Term Evaluation

13 July - 9 August

- Develop the code to display the URLs within a GnuCash Window and show a short summary of the link.
- Work on the rendering of the web pages and other intricate user design details, by taking advice from mentors and other developers.

10 August – 22 August

- Complete the documentation and test for bugs.
- Write up a developer documentation manual that would help other developers to build plugins for GnuCash easily.
- Buffer time for any unforeseen delays.

### Bio/Programming Experience:

I am undergraduate student studying Computer Science and Engineering in NITK Surathkal, India.

I have built GnuCash from source. Using svn, I checked out the source on my linux system. I have built other softwares from source and am very comfortable with svn commands and creating patches.

C and C++ are my favourite languages and have coded almost all my projects using these languages for the past 4 years. In Grade 12, I created an air travel management software using C++ (graphics included) with a friend of mine as a course project. As part of my course work in my fourth semester, I am currently working on developing the popular game, Tetris. It uses the C++ graphics library, OpenGL.

I am also very good at web development and have a strong command over HTML, PHP, MySQL and JavaScript. I am a part of the Web Club at NITK and I have created many websites. Notable ones among them include the [website for the Student Union](#) of my college (NITK) which is currently hosted on a free server for development purposes. We are in the final phase, just fixing a few bugs and filling content. It should be moved to the NITK server by the end of April. It will have the details of all students of the college on its database and in the near future, we intend to include sms feature and fees payment through it. I have also lent a helping hand to the development of the site for [Eforea](#), the Entrepreneurship cell of NITK which was made using Joomla. I have also created a basic test [Facebook application](#) using HTML and JavaScript and I intend to make more advanced apps using the Graph Protocol and Facebook API.

I am also good at assembly level programming. We are currently learning Microprocessor and Interfacing (Intel 8086 microprocessor) using TASM (Turbo Assembler). As part of this course, I am currently working on developing a speed sensor to detect speed of cars on highways. It uses 2 piezoelectric sensors to detect the entry and exit of cars on a particular strip of road of known length. The time is calculated using a timer and the speed is thus calculated and displayed on seven segment display board.

I am an avid fan of the Linux operating system and am user of Ubuntu for the past 2 years. I have experience in Windows as well, however for this project I plan on using linux for development purposes. I have good experience using the gcc compiler, the Gnu Debugger and doxygen for development, testing and documentation.

Moreover, apart from programming, I am very interested in finance and keep a constant watch on the stock market. I have appeared for and passed India's National stock Exchange (NSE) certified financial module, "Financial Markets".

## **Why GnuCash?**

GnuCash is a finance management software that has helped me to get a better understanding of the world of finance. I have been using it for some time and I am proud to say that GnuCash has definitely helped me be moneywise keeping track of my finances. When I came to know that it was selected for GSoC 2011, I really wanted to be a part of the project. In fact, this is the only proposal I have sent for this year's edition of GSoC.

I believe that coding for open source communities is something that would require skill and diligence from my part and I am very passionate about this. GnuCash is a very good desktop application for managing finance. I would like to add more functionality that makes it more internet based and the RSS feeds plugin is a first step.

I hope to be a part of the GnuCash team during GSoC, and post-GSoC, and would love to see my code being shipped as part of a release in the near future. Apart from my love for programming, my interests in finance and being a part of the developer community of a software I regularly use, have triggered me to contribute to this project.