

Currency Trading News Alert System

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Higher Diploma in Science in Computing

(Software Development)

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# Introduction

Currency traders take positions in the market with a view to making a profit by buying a currency pair at a given price and then later selling it at a higher price, the reverse, ‘shorting’, is also possible.

Each week economic data is announced at specific, scheduled times. Most dealing brokerages publicise the times of these news events at the beginning of each week, and then the results as they are released.

These news announcements have the potential to move the market significantly against the position held by traders, causing larger than expected losses. Many shorter-term traders stay out of the market completely at these times, deliberately avoiding any possible negative volatility.

Although there are many tools to automate the trading process, many short-term traders who open and close multiples trades in the same day, often do so manually, keeping note of any news announcements and exiting their trades beforehand.

I propose to develop a mobile phone application to help the trader with this process.

# Project Scope and Objectives

Minimum Viable Product:

* To download a list of all available scheduled news events for the current week from a third-party website (sample xml file included in appendix 2).
* To be able to sort this list by both currency and expected impact on the market.
* To let the user, select items of interest from the above and store them in a watch list.
* To set alarms and notifications on the user’s mobile device based on their watch list, to alert them of an imminent news announcement release.
* User can add personal alerts to the watch list to be alerted at times not in the XML schedule.
* User can select amount of time to be notified before the news announcement, e.g. 10 or 15 minutes before the news release.

Potential future work:

* Tracker facility for the user to be able to keep a record of their market trades.
* Generate & view reports that will give insight into user’s trading profile, profits & losses.
* Output reports to CSV file.
* Forward reports to a selected email.

# Learning Objectives

* To develop a full mobile application from concept to implementation, with an intuitive, GUI user interface.
* To be able to retrieve and manipulate XML data from a third party, using SQLite-PCL, & LINQ to XML (new technologies).
* To develop an alert, notification system using the android alarm manager to be able to call services and wake up applications at a scheduled time.
* Implement the Xamarin Recycle View, displaying larger lists of data to the user and providing sorting mechanisms to select what is displayed.
* To develop insight into my personal production velocity, refine my time and project management skills.

# Technical Specification of the Project

I propose to develop a mobile application using the following tools & technologies;

* Xamarin.Android
* Visual Studio 2017 (for development & unit testing)
* C#
* LINQ to XML
* SQLite-PCL
* GitHub

Specification: Screens / Views for application:

Diagrams in appendix.

* Splash screen.
* Main menu / toolbar.
* Load calendar events from xml file.
  + Download XML file of news event for upcoming week, (appendix 1).
  + All news events are displayed on screen.
  + User can select which events to add to saved 'watch list' (SQLite).
  + Watchlist can be viewed and scrolled through.
  + Any item in the watchlist can be selected & an alert added to that event.
* Add additional, personal events to watch list.
* Display all watchlist events for user to select from.
* Display a watch list of selected new events for current week.
* Display a watch list of selected events for currents day.
* Set alarm for selected news event.
* Set alarm for user-chosen time.
* Display list of alarms of current week.
* Display list of alarms for current day.
* Adjust alarm settings, e.g. sounds, duration, amount of time before alert event.
* Alerts will sound, vibrate & screen will display a warning at pre-set interval(s) before the scheduled news event.
* This will alert the user / trader to take appropriate action, e.g. close their open trade before a possible negative move against their position at the time of the news release.
* Proposed times for alerts (before news announcement):
  + - 10, 2, 1 minutes before the news.

Potential future development:

* Trade Tracker;
* The app will keep a journal of trades including the following fields;
* time trade opened, closed
* amount risked (stop loss)
* amount won / lost
* ratio of winning to losing trades
* View open & closed trades.
* Insert or delete trade.
  + Reports on users trading profile, output to csv file, forwarded via email.

# Project Plan

Milestones:

* Small proof of concept app – to demonstrate a working example of calling an alarm or notification at a pre-scheduled time, e.g. setting mobile phone to ring, vibrate and display an on-screen message at a set time. (1 week)
* Console app to demonstrate retrieval and manipulation of the 3rd party XML news event list, e.g. convert XML data to list & sort by currency, date or impact and store in database. (2 weeks)
* A non-functional mock-up / prototype to;
* display design and flow of app from one screen to another,
* use of menus, graphics and theme templates,
* hard-coded sample data. (2 weeks)
* Commence adding functionality to prototype:
* Update weekly XML data section;
* Import xml file or download from URL which is stored in Shared-Preferences, update & verify. (1 week)
* Display all content from XML in list;
* Refine by user selected buttons for currency, market impact, date.
* Add user selection to a watch list, store in database, display. (2 weeks)
* Create device alarms & notifications from watchlist;
* Alarms - add, view, delete, reset all.
* Set ‘alarm prior to announcement’ amount.
* Export watchlist to CSV file & selected email address. (2 weeks)

# Conclusion

I am looking forward to the opportunity to develop an application from concept to implementation. To take what I have learnt on my course over the last two years, to refine my skills and to continue to grow as a developer. In the process I hope to develop an artefact that will both challenge me and be an important part of my cv portfolio.

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# Appendix 1 – Design specification:

# Appendix 2 – Sample XML code:

Sample XML of fundamental news releases published weekly. Available at: https://www.forexfactory.com/ffcal\_week\_this.xml

<?xml version="1.0" encoding="windows-1252"?>

<weeklyevents>

<event>

<title>FPI m/m</title>

<country>NZD</country>

<date><![CDATA[04-15-2018]]></date>

<time><![CDATA[10:45pm]]></time>

<impact><![CDATA[Low]]></impact>

<forecast />

<previous><![CDATA[-0.5%]]></previous>

</event>

<event>

<title>Rightmove HPI m/m</title>

<country>GBP</country>

<date><![CDATA[04-15-2018]]></date>

<time><![CDATA[11:01pm]]></time>

<impact><![CDATA[Low]]></impact>

<forecast />

<previous><![CDATA[1.5%]]></previous>

</event>

<event>

<title>WPI m/m</title>

<country>EUR</country>

<date><![CDATA[04-16-2018]]></date>

<time><![CDATA[5:52am]]></time>

<impact><![CDATA[Low]]></impact>

<forecast><![CDATA[0.4%]]></forecast>

<previous><![CDATA[-0.3%]]></previous>

</event>

</weeklyevents>