How to get Alarms list in Qt Maemo application

Overview

This example shows how to get list of System alarms in Qt Maemo application. There are no Qt classes for this operation - so using GTK functions.

Project .pro file

```
// Maemo specific config
maemo5 {
LIBS += libalarm.so
}
```

Packing in DEB - control file

```
// in source section add for Build-depends line
libalarm-dev
```

Header

```
#include <time.h>
#include <alarmd/alarm_dbus.h>
#include <alarmd/libalarm.h>
```

Source

```
// get the reference to QComboBox for filling
void SampleWidget::fillAlarmList(QComboBox* &aBox)
{
    // clear the list
    aBox->clear();

    cookie_t *list, *iter; // cookie_t - alarm cookies from GTK
    time_t now; // time_t structure from GTK

    // set number of hours to search alarms
    int timeFrame = 96;

    now = time(NULL);
    // get list of alarms
    list = alarmd_event_query(now, now + timeFrame*3600, ALARM_EVENT_DISABLED, 0, NULL);

    if (list[0] != (cookie_t) 0) {
        // iterate through alarm list
        for (iter = list; *iter != (cookie_t) 0; iter++)
        {
            // get alarm event by it's cookie
            alarm_event_t * aevent = alarmd_event_get (*iter);
            // check alarm recurrence
            int recur = alarm_event_is_recurring (aevent);
            // get time of alarm action
            time_t ttime = alarm_event_get_trigger(aevent);
            // convert GTK's ttime to Qt's DateTime
            QDateTime qdtm = QDateTime::fromTime_t(ttime);
            // get time part from DateTime variable
            QTime qtm = qdtm.time();
            // let's count day to current alarm triggering
            int days = 0;
            QDateTime currDate;
            if (timeFrame > 24) // if we need to look forward for more then one day
            {
                //  get current date from system
                currDate = QDateTime::currentDateTime();
                // calculate seconds from current time to alarm's trigger
                int secs = currDate.secsTo(qdtm);
                // get full days until alarm
                days = secs / (60 * 60 * 24);
            }
            // here we will form alarm's string
            QString sTime;
            // using locale settings to convert time into string
            sTime = qtm.toString(Qt::DefaultLocaleShortDate);
            if (days > 0) // calc for more than 1 day alarms
            {
                sTime += " (";
                sTime += QString::number(days) + tr("d");
                sTime += " ";
                // calc remaining time
                // get current time
                QTime currTime = QTime::currentTime();
                // calculate seconds remaining to alarm trigger
                int remain = currTime.secsTo(qtm);
                // we need some fix if get negative result
                if (remain < 0) remain += 86400;
                // calc remaining hours
                int h = remain/3600;
                // calc minutes
```


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```
                int m = (remain - h*3600)/60;
                // form hour + minutes into QTime to leter get formatted string
                QTime remTime(h,m);
                sTime += remTime.toString("H:mm");
                sTime += ")";
            }
            // get the title of alarm
            QString aTitle;
            // each alarm can have Message, Title and AppId
            // for the first check the Message
            const char * cTitle = alarm_event_get_message(aevent);
            aTitle = QString::fromUtf8(cTitle);
            if (aTitle.isEmpty())
            {
                // next, check the title if message is empty
                cTitle = alarm_event_get_title(aevent);
                aTitle = QString::fromUtf8(cTitle);
                if (aTitle.isEmpty())
                {
                    // if message and Title both are empty - use AppID as alarm's title
                    cTitle = alarm_event_get_alarm_appid(aevent);
                    aTitle = QString::fromUtf8(cTitle);
                }
            }
            sTime += ": " + aTitle;
            aBox->addItem(sTime);
            // free alarm event structure
            alarm_event_delete(aevent);
        }
    }
    free(list);
}
```

Postconditions

`QComboBox` filled with list of alarms (and time remaining to that alarms)

--Avis 12:24, 30 November 2010 (UTC)

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