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
```


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```
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
    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())
    {
```


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```
                    // 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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