Create calendar events with alarms with Harmattan platform API

This article explains how to create a calendar event with an alarm using the platform SDK for Harmattan. This is an alternative to the Qt Mobility Calendar API (1.2.1), that at time of writing has issues with associating alarms with calendar events.

To use the platform SDK you will need to setup a Linux environment because the SDK only runs on Linux. For this you can follow the instructions at http://harmattan-dev.nokia.com/platform-sdk/.

The Harmattan platform calendar package is based on KDE's `KCalendar` with some modifications to allow for a SQLite persistance layer, to interface with this native functionality there is a lib (shared object) called "mkcal" that you can link to in your code.

To use mkcal lib you'll need to make the following modifications to your project file:

```
contains(MEEGO_EDITION,harmattan) {
    LIBS += -ldl /scratchbox/users/<user>/targets/<arch>/usr/lib/libmkcal.so
    LIBS += -ldl /scratchbox/users/<user>/targets/<arch>/usr/lib/libkcalcoren.so
}
```

Replace <user> with the name of the scratchbox user and <arch> with "HARMATTAN_X86" if you are compiling for scratchbox or "HARMATTAN_ARMEL" if compiling for the emulator or for the device.

And also add the following credentials to your project aegis manifest file (project_folder/debian/project_name.aegis):

```
  <aegis>
    <request policy="add">
      <credential name="GRP::calendar" />
      <credential name="TrackerWriteAccess" />
      <credential name="TrackerReadAccess" />
      <for path="path_to_project" />
    </request>
  </aegis>
```

The following is an example code to demonstrate the use of the API:

```
    #include "mkcal/extendedcalendar.h"
    #include "mkcal/extendedstorage.h"
    #include "mkcal/notebook.h"
    #include "kcalcoren/event.h"
    #include "kcalcoren/alarm.h"
    #include "kcalcoren/kdatetime.h"
    #include "kcalcoren/duration.h"
    #include <QSharedPointer>
    #include <QLatin1String>

    using namespace KCalCore;
    using namespace mKCal;

    QString CalWrapper::setAlarm(QDateTime start, QDateTime end, QString message)
    {
    #if defined(MEEGO_VERSION)
        ExtendedCalendar::Ptr calendar = ExtendedCalendar::Ptr ( new ExtendedCalendar( KDateTime::Spec::LocalZone() ) );
        ExtendedStorage::Ptr storage = calendar->defaultStorage(calendar);
        Event::Ptr event;
        Alarm::Ptr alarm;

        storage->open();
        storage->load(start.date(), end.date());

        event=Event::Ptr(new Event());
        event->setDtStart(KDateTime(start));
        event->setDescription(message);
        event->setSummary(message);

        alarm=Alarm::Ptr(new Alarm(event.data()));
        alarm->setDisplayAlarm(message);
        alarm->setEnabled(true);
        alarm->setRepeatCount(1);
        alarm->setStartOffset(Duration(0));
        alarm->setTime(KDateTime(start));
        alarm->setEndOffset(Duration(0));

        event->addAlarm(alarm);


        // the second parameter refers to the personal calendar uid
        calendar->addEvent(event, "11111111-2222-3333-4444-555555555555");
        calendar->save();

        storage->save();
        storage->close();

        qDebug() << "CalWrapper::setAlarm:Alarm set";
        return event->uid();
    #else
        return "";
    #endif
    }

    void CalWrapper::removeAlarm(QString key, QDate date)
    {
    #if defined(MEEGO_VERSION)
        ExtendedCalendar::Ptr calendar = ExtendedCalendar::Ptr ( new ExtendedCalendar( KDateTime::Spec::LocalZone() ) );
        ExtendedStorage::Ptr storage = calendar->defaultStorage(calendar);
        Event::Ptr event;
```


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```
        storage->open();
        storage->load(date.addDays(-15), date.addDays(15));

        event=calendar->event(key);
        if (event.data()==NULL)
            qDebug() << "CalWrapper::removeAlarm:Event doesnt exist";
        else
        {
            calendar->deleteEvent(event);
            calendar->save();
            storage->save();

            qDebug() << "CalWrapper::Alarm removed";
        }

        storage->close();
    #else
    #endif
    }
```

You can also check the Qt Mobility bug report, at https://bugreports.qt-project.org/browse/QTMOBILITY-1890, for updates on this issue.

All tests were done on an Nokia N9.

Related Articles

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