**QT Coding Convention**

**Basic coding convention from Nokia and QT official web**



**Additional conventions which are not mentioned by Nokia and QT**

**1：Add file and version information.**

At the beginning of header files and .cpp files, need to use comment make simple notes about Copyright, Function description ,Version, Author,ect.

／\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*　Copyright(c)2010 Teleca company.

\*　All rights reserved.

\*

\*　File name：filename.h/ filename.cpp

\*　Function description：Brief description files content and features.

\*

\*　Version No.：1.1

\*　Author： Johnny Liu

\*　Date： June 28, 2010

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

**2. Fucntion comments: Features, Parameters and Return value**

Every program shoud begin with a brief comment to explain the features of function. And all of parameters and return values should add commentsto brief description too. E.g:

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\* Name：\*\*\*

\* Function：Briefly describe the features of function

\* Parameters list：param1——Description；

\* param2——Description；

\* param3——Description；

\* Return value：Briefly describe the return value

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

**3. Variables definiton and comment.**

1)The definition of variables use camel style(The compound words or phrases in which the elements are joined without spaces, the first letter is use low case and the words behind are start with upper case). Should use “Nonu” or “Adj. + Nonu”. E.g.

float value;

float oldValue;

float newValue;

Every static variable and global variable need comments. And important local variable alse need commmens.

2)The usual controls variable, use controls abbreviation or “Verb + controls abbreviation”, “Adj + controls abbreviation”.

The usual controls abbreviation are in Appendix\_2.

**4.** The principle of variable and function names

1)Variable name use Hungarian notation, the detail of Hungarian notation please check Appendix\_1.

2)Global variable and class data members variable use long name, local variable use short name. The name of class data members beginning with m\_, the name of static variable beginning with s\_, the name of global variable beginning with g\_.

* The prefix of class data members start with m\_ can avoid confuse with another variable. E.g.

void Object::SetValue(int width, int height)

{

m\_width = width;

m\_height = height;

}

* The prefix of static variable is s\_(‘s’means static), E.g.

void Init(…)

{

static int s\_initValue; // static variable

…

}

* If we have to use global variable, the prefix of it is g\_ (means global), E.g.

int g\_howManyPeople; // global variable

int g\_howMuchMoney; // global variable

3)Local variable should simple and easy to understand, use common variable, E.g. nCount，i，j，k，len, pos, ect

4)In program, if two or more classes have same abbreviation, like QToolBar and QToolButton, both abbreviation are tb, then we need to change the abbreviation of one of them, the change principle is avoid conflict and can express the mean of class. E.g. The abbreviation of QToolBar is ‘tbar’, and QToolButton still use ‘tb’ for arrreviation.

5) Class name start with the combination of words that all start with upper case, but the function name use camel style. E.g.

class Node; // class name

class LeafNode; // class name

void drawRect(void); // function name

void setValue(int value); // function name

**5. Header files structure and class declaration arrangement.**

1) The header files consist with three parts.

<1>The version declaration at the beginning of header files.（Reference sample 1-1）。

<2> Preprocessing block。

<3>Function and class declaration, ect.

In it, the header files start with(#define\*\*\*, #ifndef\*\*\*)，end with(#endif //\*\*\*)。

2)In class declaration, the order is: Q\_OBJECT、public：、siganls：、slots：、protected：、priavte. If need to declaration some another data type(Structure,Enumerate,etc.), should put those declaration before the data members and function members. If in same class, have both data variable and function declaration, use same type declaration split both of them. E.g.

private：

void function（）；

…

private：

int m\_num；

…

3)At usual, if we use the Signals/Slots, the first sentence of class declaration is Q\_OBJECT.

4)Suggest avoid to use protected type function members or data members, because in Qt libraries, most of envent handle(slots) are use protected type.

**6:UI layout principle.**

When make Qt UI, use QLayout as you can for layout management, try to avoid using absolute coordinates, unless you are certain the the UI won’t changed forever. If one area have many controls, try to put those controls in a window box(e.g. QWidget, QFrame,QGroupBox,etc.), then put those window box in the UI.

**7.Debug information**

At first, in order to debug, we should add debug information in our codes. We should use the macro QT\_NO\_DEBUG\_OUTPUT control it, E.g.

#ifndef QT\_NO\_DEBUG\_OUTPUT

qDebug(“debug message”);

QMessageBox::warning(0, “warning”, “message”);

#endif // QT\_NO\_DEBUG\_OUTPUT

* 1. Appendix\_1: Hungarian notation 
  2. Appendix\_2: Contorls abbreviation 