Archived:Creating Tic-Tac-Toe using QWidgets

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Qt Quick should be used for all UI development on mobile devices. The approach described in this article (based on QWidget) is deprecated.

This article demonstrates how to create a simple tic-tac-toe game using QWidgets. The game rules are well known and the implementation is self-explanatory - hence these are not explained here.

Source File

```
#include "tictactoe.h"
#include <QPushButton>
#include <QVBoxLayout>
#include <QHBoxLayout>

tictactoe::tictactoe(QWidget *parent)
    : QWidget(parent)
{
 layout = new QVBoxLayout(this);
 rw1 = new QHBoxLayout(this);
 rw2 = new QHBoxLayout(this);
 rw3 = new QHBoxLayout(this);
 flag=1;

 button11 = new QPushButton(this);
 button12 = new QPushButton(this);
 button13 = new QPushButton(this);
 button21 = new QPushButton(this);
 button22 = new QPushButton(this);
 button23 = new QPushButton(this);
 button31 = new QPushButton(this);
 button32 = new QPushButton(this);
 button33 = new QPushButton(this);
 setStyleSheet("* { background-color:rgb(199,147,88); padding: 7px ; color:rgb(255,255,255)}");

 connect(button11,SIGNAL(clicked()),this,SLOT(mark_button11()));
 connect(button12,SIGNAL(clicked()),this,SLOT(mark_button12()));
 connect(button13,SIGNAL(clicked()),this,SLOT(mark_button13()));
 connect(button21,SIGNAL(clicked()),this,SLOT(mark_button21()));
 connect(button22,SIGNAL(clicked()),this,SLOT(mark_button22()));
 connect(button23,SIGNAL(clicked()),this,SLOT(mark_button23()));
 connect(button31,SIGNAL(clicked()),this,SLOT(mark_button31()));
 connect(button32,SIGNAL(clicked()),this,SLOT(mark_button32()));
 connect(button33,SIGNAL(clicked()),this,SLOT(mark_button33()));
 rw1->addWidget(button11);
 rw1->addWidget(button12);
 rw1->addWidget(button13);
 rw2->addWidget(button21);
 rw2->addWidget(button22);
 rw2->addWidget(button23);
 rw3->addWidget(button31);
 rw3->addWidget(button32);
 rw3->addWidget(button33);
 layout->addLayout(rw1);
 layout->addLayout(rw2);
 layout->addLayout(rw3);

 setLayout(layout);

}

tictactoe::~tictactoe()
{
    // No need to delete any object that got a parent that is properly deleted.

}
void tictactoe::mark_button11()
 {
  if(flag==1)
   {flag=0;
   button11->setText("X");
   b11=1;
   }
  else
   {flag=1;
   b11=0;
   button11->setText("O");
   }
  button11->setDisabled(1);
  check_winner();

 }

void tictactoe::mark_button12()
 {
  if(flag==1)
   {flag=0;
   b12=1;
   button12->setText("X");
   }
  else
   {flag=1;
   button12->setText("O");
   b12=0;
   }
  check_winner();
  button12->setDisabled(1);
 }

void tictactoe::mark_button13()
 {
  if(flag==1)
```


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```
    {flag=0;
    b13=1;
    button13->setText("X");
    }
   else
    {flag=1;
    button13->setText("O");
    b13=0;

    }
   check_winner();
   button13->setDisabled(1);
  }

 void tictactoe::mark_button21()
  {
   if(flag==1)
    {flag=0;
    button21->setText("X");
    b21=1;
    }
   else
    {flag=1;
    button21->setText("O");
    b21=0;
    }
   check_winner();
   button21->setDisabled(1);
  }

 void tictactoe::mark_button22()
  {
   if(flag==1)
    {flag=0;
    button22->setText("X");
    b22=1;
    }
   else
    {flag=1;
    b22=0;
    button22->setText("O");
    }
   check_winner();
   button22->setDisabled(1);
  }

 void tictactoe::mark_button23()
  {
   if(flag==1)
    {flag=0;
    b23=1;
    button23->setText("X");
    }
   else
    {flag=1;
    b23=0;
    button23->setText("O");
    }
   check_winner();
   button23->setDisabled(1);
  }

 void tictactoe::mark_button31()
  {
   if(flag==1)
    {flag=0;
    b31=1;
    button31->setText("X");
    }
   else
    {flag=1;
    b31=0;
    button31->setText("O");
    }
   check_winner();
   button31->setDisabled(1);
  }

 void tictactoe::mark_button32()
  {
   if(flag==1)
    {flag=0;
    b32=1;
    button32->setText("X");
    }
   else
    {flag=1;
    b32=0;

    button32->setText("O");
    }
   check_winner();
   button32->setDisabled(1);
  }

 void tictactoe::mark_button33()
  {
   if(flag==1)
    {flag=0;
    b33=1;
    button33->setText("X");
    }
   else
    {flag=1;
    b33=0;
    button33->setText("O");
    }
   check_winner();
   button33->setDisabled(1);
  }

 void tictactoe::check_winner()
  {
  if ((b11==1 && b12==1 && b13==1)||(b21==1 && b22==1 && b23==1)||(b31==1 && b32==1 && b33==1)||(b31==1 && b22==1 && b13==1)||(b11==1
   {
   msgbox = new QMessageBox(this);
   msgbox->setText("Player 1 Win ");
   msgbox->setStyleSheet("* { background-color:rgb(199,147,88); padding: 7px ; color:rgb(255,255,255)}");
   msgbox->exec();
   qApp->quit();
```


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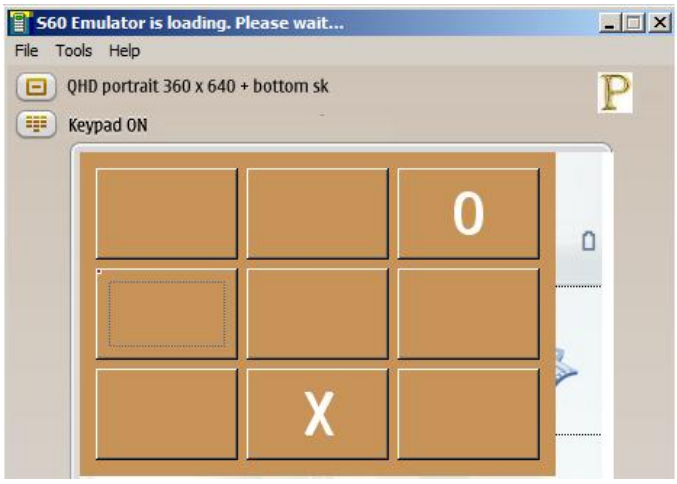
```
    }
  if ((b11==0 && b12==0 && b13==0)||(b21==0 && b22==0 && b23==0)||(b31==0 && b32==0 && b33==0)||(b31==0 && b22==0 && b13==0)||(b11==0
   {msgbox = new QMessageBox(this);
   msgbox->setText("Player 2 Win ");
   msgbox->setStyleSheet("* { background-color:rgb(199,147,88); padding: 7px ; color:rgb(255,255,255)}");
   msgbox->exec();
   qApp->quit();
   }

  }
```

Header File

```
#ifndef TICTACTOE_H
#define TICTACTOE_H

#include <QtGui/QWidget>
#include "ui_tictactoe.h"
#include <QPushButton>
#include <QVBoxLayout>
#include <QHBoxLayout>
#include <QMessageBox>

class tictactoe : public QWidget
{
    Q_OBJECT

public:
 tictactoe(QWidget *parent = 0);
 bool flag;
 int b11,b12,b13,b21,b22,b23,b31,b32,b33;
    ~tictactoe();
private slots:
 void mark_button11();
 void mark_button12();
 void mark_button13();

 void mark_button21();
 void mark_button22();
 void mark_button23();

 void mark_button31();
 void mark_button32();
 void mark_button33();

 void check_winner();
private:
  QVBoxLayout *layout;
  QHBoxLayout *rw1;
  QHBoxLayout *rw2;
  QHBoxLayout *rw3;
  QMessageBox *msgbox;
  QPushButton *button11;
  QPushButton *button12;
  QPushButton *button13;
  QPushButton *button21;
  QPushButton *button22;
  QPushButton *button23;
  QPushButton *button31;
  QPushButton *button32;
  QPushButton *button33;


};

#endif // TICTACTOE_H
```

Screenshots



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Download

- Download the working example from this link: tictactoe.zip

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