Worksheet: Shooting Pictures

Date : 12feb2024

By : Dick van Kalsbeek

Time needed : 60 minutes

Creation : Individual, teams of two, etc…

Read the assignment carefully and ask questions if anything is not clear.

# Subject: Shooting Pictures

In shooter games you need to detect if a bullet or photon torpedo has hit the ‘thing’ you want to hit. This is called collision detection. Basically it is a bit similar to a racer which passes the finishline. You will compare two positions and take action. For example, if it is hit the ‘thing’ will disappear or show an explosion, or.. Also, there is a ‘hit’ range. You cannot simply compare to top position of the photon torpedo with the ‘thing’, because the ‘thing’ has a height on which the hit shall be registered.

Afbeelding met tekst, software, lijn, schermopname

Automatisch gegenereerde beschrijving

This application shows this with one moving object and a crosshair line, in the future you will encounter two moving objects.

Covered in the worksheet: The FLAK can be moved by the keys WASD, also refer to chapter ‘IMPORTANT’.

**Not covered in this worksheet**: shooting can be added by yourself using the right mouse click.

**Note: this might be a project to do in teams of 2**

# WerkwijzeDisclaimer

If things do not work the first time consider asking your ‘peers’ (class mates) or searching on the internet.

Websites: Dotnetperls.com, W3schools.com, Codacademy.com

# Learning goals

After practising this worksheet you should be able to enter a detect collisions of a picturebox with a panel, use increment and decrement the start value and show it in a label. Also you can use the keyboard as inputs to move form items around, and use tricks to speed up moving items.

# Steps

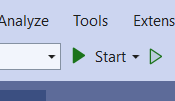
1. **Prepare before start. Read the steps first! Then follow the steps.**
2. Create a new Visual Studio Windows Forms App (.NET Framework) project
3. Name it ‘APPR\_ <WORKSHEETNAME>\_ 22SD\_ <YOURNAME>
4. On the form add, als see screenshot in chapter ‘form items’
5. Modify the text property of the item; refer to screenshot

Before generating the eventhandlers:

Add your own 4 character abbreviation to the form items and variables!

Also coding standard ROC Ter AA!

1. Use the ROC Ter AA Coding Standard for the item name properties
2. DO NOT modify the name properties for passive form items (informative). This is not necessary.
3. Check out the code before generating eventhandlers, not all form items need these
4. Add the code, see the next page
5. Build and run your code



1. Solve errors alone
2. or with help of your peers
3. Add extra
   1. Check the ‘lock on target’ method, for errors
   2. HIT!
      1. When the picture is hit by the crosshair, the picture shall disappear
      2. also refer to line 130 in the code
   3. Comment in code
      1. Explain what you typed, or copied form the worksheet code
      2. Add summaries
      3. Add regions

# Form Items

A screenshot from the prepared application, not with inconsistent names…

Afbeelding met tekst, schermopname, Lettertype, lijn

Automatisch gegenereerde beschrijvingAfbeelding met tekst, schermopname, Lettertype, nummer

Automatisch gegenereerde beschrijvingAfbeelding met tekst, elektronica, schermopname, software

Automatisch gegenereerde beschrijving

# Afbeelding met tekst, software, schermopname, Computerpictogram Automatisch gegenereerde beschrijving

# **IMPORTANT**

Afbeelding met tekst, schermopname, Lettertype, nummer

Automatisch gegenereerde beschrijving

To enable your application to detect pressed keys from the keyboard you need some steps:

1. Select the form and set the KeyPreview property to ‘**true’**.

Afbeelding met tekst, schermopname, Lettertype, nummer

Automatisch gegenereerde beschrijving

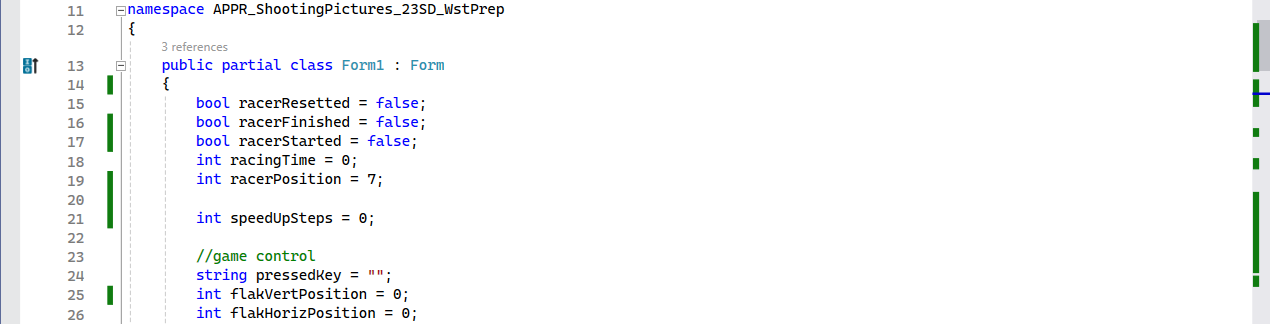
1. Create eventhandlers on the form for the key down and up.

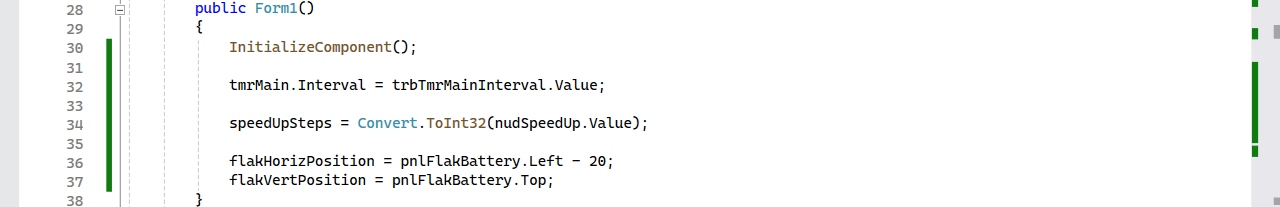
# Code

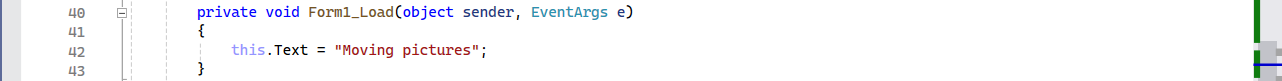
The code below is are screenshots with the code. This is intentionally done like this since entering code and experiencing code completion, errors, etc helps in understanding the steps.

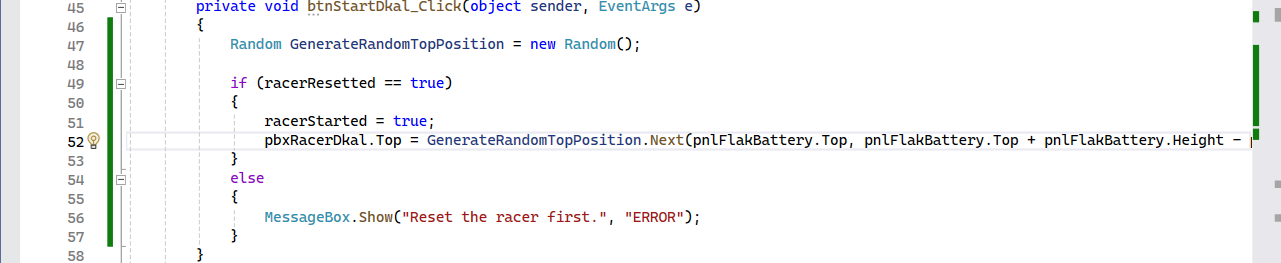
**Afbeelding met tekst, schermopname, software, Webpagina

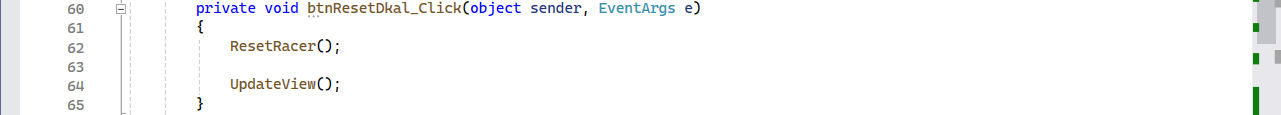
Automatisch gegenereerde beschrijving**

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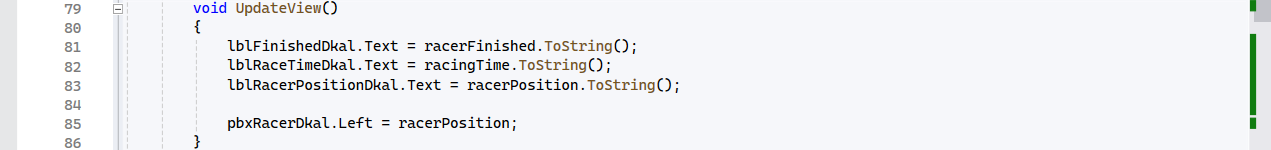
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**Afbeelding met tekst, schermopname, software, nummer

Automatisch gegenereerde beschrijving**

**Afbeelding met tekst, schermopname, lijn, Perceel

Automatisch gegenereerde beschrijving**

**Afbeelding met tekst, schermopname

Automatisch gegenereerde beschrijving**

**Afbeelding met tekst, schermopname, lijn

Automatisch gegenereerde beschrijving**

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**Afbeelding met tekst, schermopname, software, nummer

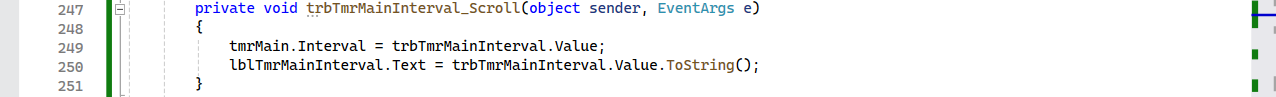
Automatisch gegenereerde beschrijving**

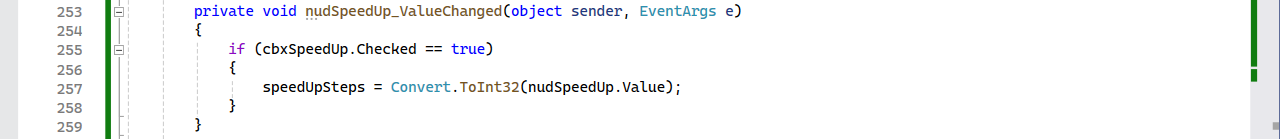
**Afbeelding met tekst, schermopname, software

Automatisch gegenereerde beschrijving**

**Afbeelding met tekst, schermopname, lijn

Automatisch gegenereerde beschrijving**

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**Afbeelding met tekst, schermopname, lijn

Automatisch gegenereerde beschrijving**

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