

Faculty of Mathematics and Physics
Charles University in Prague
6th March 2015



C# Made Easy!

Programming II

Workshop 3 – Unleashing the Snake

Workshop 3

Outline

1. Practice Terms
2. Test
3. The Snake (as homework)



Test 03

Quick Warm up!

Find the test here (no-ads):

<http://goo.gl/bp7mto>

Permanent link:

<https://docs.google.com/forms/d/1N1vM3UNe-sD8S2tbRxf2df5pRfy9cV6TGA7y0DVqi5c/viewform>

Time for the test:

10 min

Revisiting the Homework

What is the benefit of having interfaces?

Discussing “Simple Calc” example.

- Console application (text-based game)
 - Snake is controlled either by WSAD, or arrows, or 8246 numbers
 - Escape key terminates the game
- Provide solution that can easily change
 - Map dimensions
 - Ask me on how big map I want to play (max 80 x 40)
 - Food effects
 - Adding new should be as easy as creating and „registering“ a new Food object
 - Implement POISON
 - That kills the snake
 - Implement WINE
 - That reverse the controls

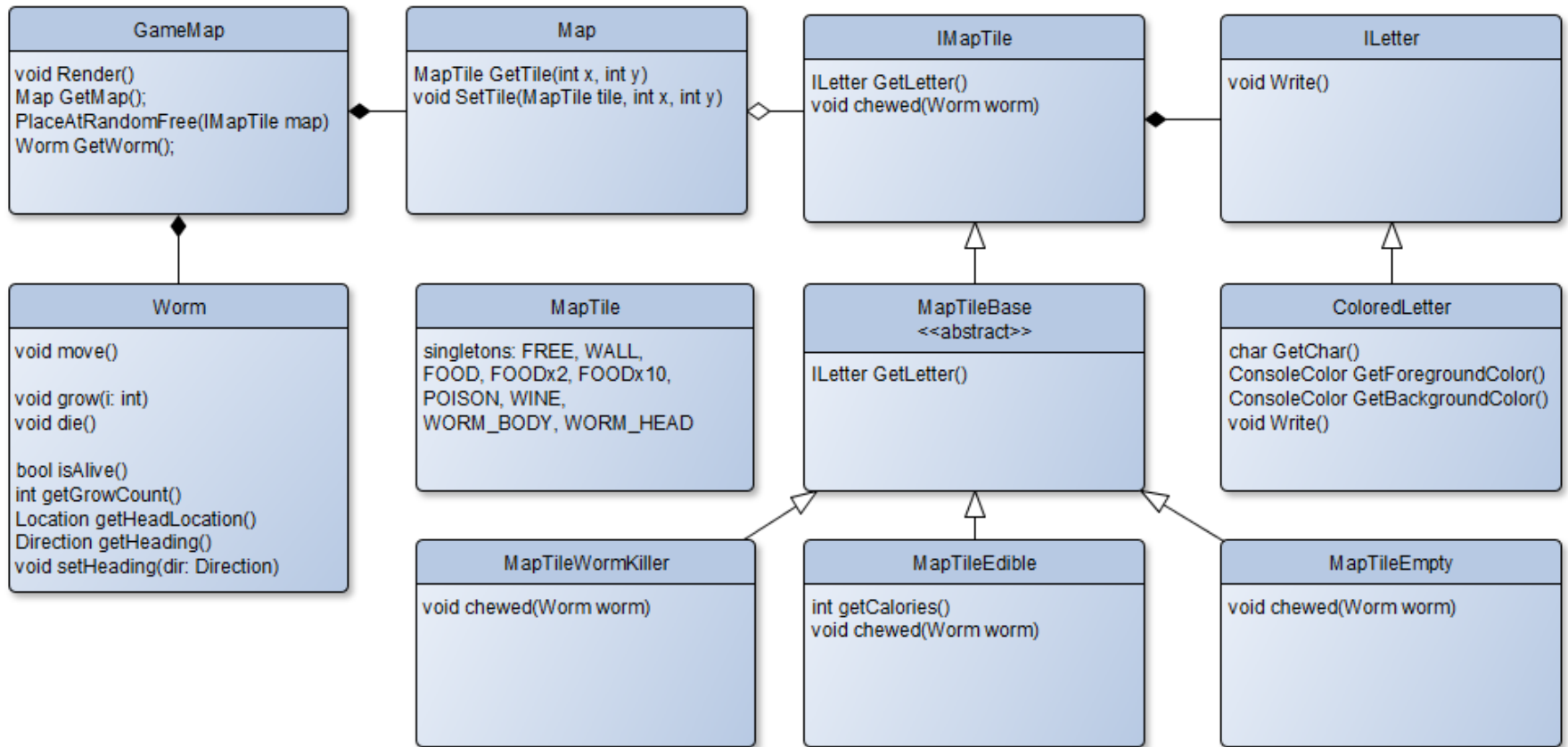
Assignment 3

Create "The Snake" aka "The Worm" game

- Console application (text-based game)
 - Snake is controlled either by WSAD, or arrows, or 8246 numbers
 - You have to display "snake's length" and "time elapsed" somewhere at "bottom status line"
 - Escape key terminates the game
 - Implement tiles: Empty, Wall, Food, Posion, Wine, "Snake"
 - Snake movement speed should be increasing every N food eaten (regardless their calories)
- Provide solution that can easily change
 - Map dimensions
 - Ask me on how big map I want to play (max 80 x 40)
 - Food effects
 - Adding new food should be as easy as creating and „registering“ a new Food object
 - Both POISON and WALL kill the snake
 - Implement WINE so it reverse the controls (UP<->DOWN, LEFT<->RIGHT)
- Points:
 - 10, if finished till 15.3.2015, 23:59
 - 5, if finished later on
- Bonus:
 - Provide different visualization for the snake's body using
 - <, v, >, ^ as a head ... -, | as a straight body and / \ at "turning points"
 - 3 points

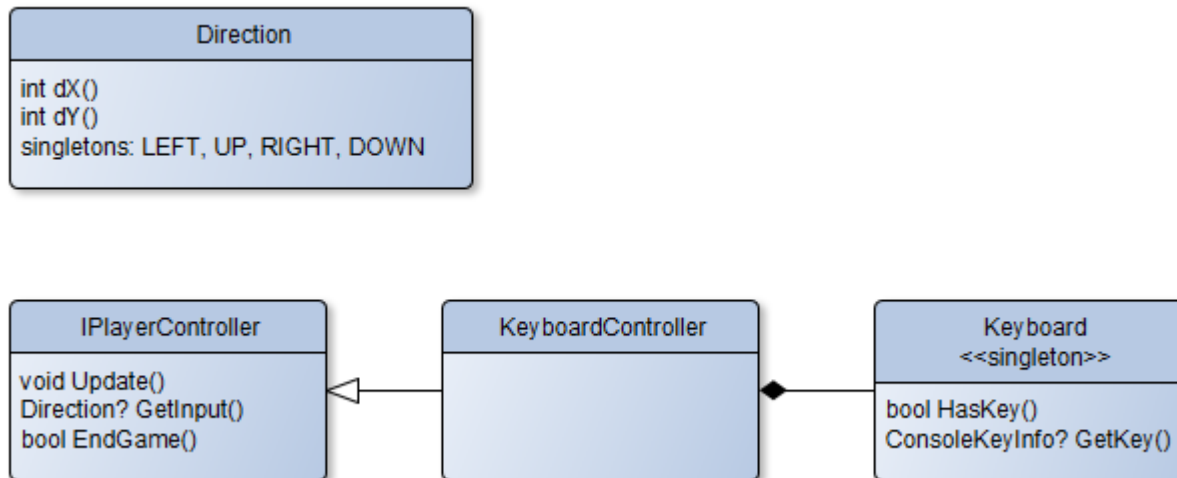
Assignment 3

Representing the Game Model + View



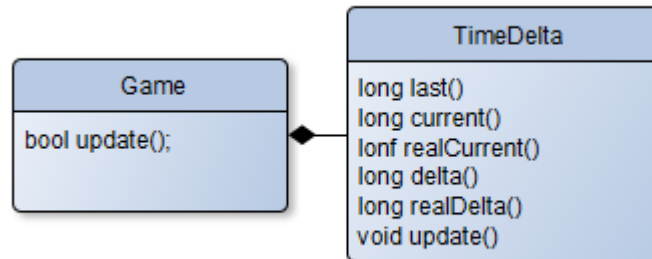
Assignment 3

Getting Player's Input



Assignment 3

Timing the Game



CheatSheet

Reading Inputs from Keyboard

```
1 reference  
public bool hasKey()  
{  
    return Console.KeyAvailable;  
}
```

```
1 reference  
public ConsoleKey? getKey()  
{  
    if (Console.KeyAvailable)  
    {  
        return Console.ReadKey(true).Key;  
    }  
    return null;  
}
```

CheatSheet

Changing Console Output Color

- Google: C# Console Colors
 - Google – The Best Programmer's Friend
 - Keep in mind the limit of "Googling" for "Code"

CheatSheet

Timing your Snake

```
private static readonly DateTime Jan1st1970 = new DateTime(1970, 1, 1, 0, 0, 0, DateTimeKind.Utc);
```

2 references

```
public static long CurrentTimeMillis()  
{  
    return (long)(DateTime.UtcNow - Jan1st1970).TotalMilliseconds;  
}
```

Assignment 3

Send me an email

- Email: jakub.gemrot@gmail.com
- Subject: **Programming II – 2015 – Assignment 03**
- Zip up the whole project and send it
- You WILL NOT find the assignment in CoDex!
- Deadline: **15.3.2015 23:59**

Questions?

I sense a soul in search of answers...

- Sadly, I do not own the patent for perfection (and will never do)
- In case of doubts about the assignment or some other problems don't hesitate to contact me!
 - Jakub Gemrot
 - jakub.gemrot@gmail.com