OOP
abstract
methods and classes

PHP WebDevelopment 2019

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Abstract classes and methods

Abstract classes and methods

We can separate the common logic - for a class and its ancestors -

in a class that **will not have instances.**

Such a class begins with **abstract** keyword.

abstract class ClassName .....

The abstract class can be merely descriptive - can declare the properties and methods /only method names/.

The classes that extend the abstract class **will implement or extend** the abstract class methods.

Abstract classes and methods

```
abstract class AUser {
    public function get_user(){
        //method logic here
    }
    public function edit_user_data(){
        //method logic here
    }
    public function redirect_user(){
        //the method depends on user type so every class that will extend AUser has implementation for this method.
    }
}
```

Abstract classes and methods

```
abstract class AUser {
      protected function get_user(){
   //method logic here
   }
   public function edit_user_data(){
      //method logic here
   }
      abstract function redirect_user();
      //the method depends on user type so every class
   that extends AUser must have implementation for this method.
}
```

Abstract classes and methods

```
class SuperAdmin extends AUser {
        protected function redirect_user(){
        //logic for the SuperAdmin user to be redirected to the super-admin dashboard
    }
    public function edit_user_data(){
        //logic for the SuperAdmin user to edit user`s data is different - can be
redefined or extended here
    }
}
```

Summary

Враца Софтуер Общество

- If a class **has an abstract method** it is an abstract class and its definition begins with **abstract.**
- A class can be an **abstract class** without having abstract methods.
- An abstract class is a class that by design will not have instances

Interfaces

Interfaces

It is like an abstract class having only abstract methods.

All classes that implement an interface must implement the methods declared in the interface.

Interfaces

Interfaces allow you to create code which specifies which methods a class must implement, without having to define how these methods are implemented.

Usually this method implementation is different in different classes.

It is possible to declare a constructor in an interface, which can be useful in some contexts.

Interfaces

One class can implement more than one interface.

An interface can be implemented by different, not isA connected classes.

Can interfaces be implemented by isA connected classes?

interfaces

```
interface iInfo {
	public function get_data( $param );
	public function display_data();
}
```

interfaces

```
class User implements iInfo {
       public function get_data( $param ){
             //gets user from db
             //returns user data from db
   }
       public function display_data(){
       $data = $this->get_data( $this->username );
       //display retrieved data from the db
   }
}
```

interfaces

```
class Page implements iInfo {
         public $content;
         ...
         public function __construct( $page_id ){
                  $this->content = $this->get_data( $page_id );
                  …
         }
         public function get_data( $param ){
                  //gets page data from db
                  //returns data
     }
         public function display_data(){
         //display $this->content
         //display ....
     }
}
```

interfaces

One class can implement more than one interface.

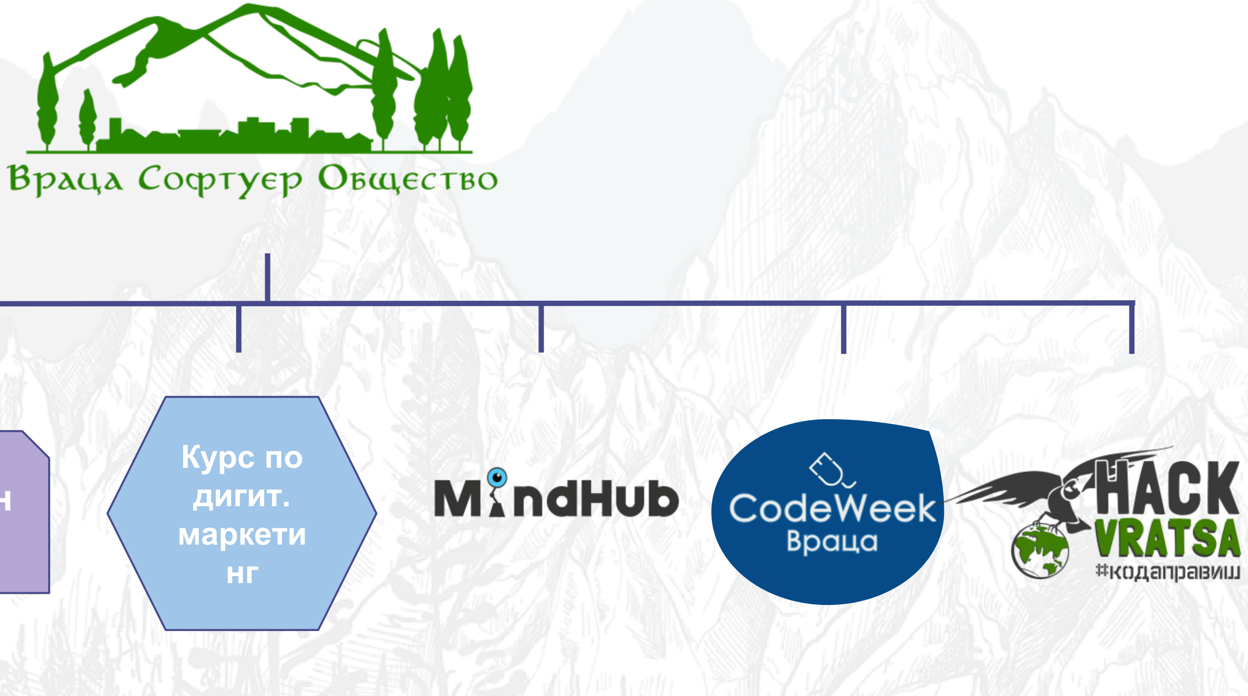
```
class User implements iInfo, iAnotherInterface {
       public function get_data( $param ){
               //gets user from db
               //returns user data from db
    }
       public function display_data(){
       $data = $this->get_data( $this->username );
       //display retrieved data from the db
    }
    ...
}
```

Summary

Враца Софтуер Общество

- ➔ The class that implements an interface must implement all the methods from the interface definition.
- ➔ If the method is declared in the interface that it will use param(s), the methods implemented in the class must be implemented with the same number of parameters.
- ➔ In an interface method access specifiers are only public.
- ➔ An interface can be extended by another interface using the **extends keyword**.

Questions?



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