Fourth practice – MVC

At this laboratory practice you will try to create MVC design patter and work with HTML Canvas element:

- Work and drawing in HTML Canvas
- Logic detachment from control and graphic user interface
- Basic file structure principle

Task 1:

Create simple HTML Canvas element, where you will draw this object:

- Rectangle
- Circle
- Square grid – max. size of one grid is 20 Canvas points,
- Insert **RANDOM** image to HTML Canvas element.

HTML Canvas and circle drawing will be needed in next task.

Task 2:

Create simple file structure in this manner – one directory (folder) for Model, one directory for Controller and one directory for View. ***Note:*** *At this practice, you can merge Controller and View in one file, but create file structure for possible extensions, which will be realized at next laboratory practice.* Next step is creating four HTML buttons for player controlling. Model part of MVC is based on code from last laboratory practice – you need to make proper connection with View and Controller parts of MVC. Basic principle of program is player controlling with HTML buttons. Player is represented as green circle. Enemies (*Wrathful Bunny* and *Pinky Ass Destroyer*) are represented as red circles. As mentioned in previous task document, player and enemies can attack each other only if they are in attack range. Movement step per button action is at the best 7 Canvas points in given direction. Enemies will jump in the direction to player. Jump length is in random range 1 to 10 Canvas points. For random values use *Random* function. Loop will end when these conditions are met:

- 100 attacks happen between *Player* and enemies,
- Player has 0 or less health,
- All enemies have 0 health.

Player and enemies can leave HTML Canvas.

Extension

As an extension, you need to extend you program with HTML Element (*p, hi, ul, title…*). In this element, you will show or update player's attributes or enemy's attributes – health, position are necessary, another attributes can be shown as optional.

RECOMMENDATION TO BACK-UP JAVASCRIPT PROGRAM. AT NEXT LABORATORY PRACTICES YOU WILL EXTENDS THIS PROGRAM WITH NEW FUNCIONALITIES.