

Fakulta informatiky a informacnych technologii

# **Duck Hunt specifikacia**

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14:00 Štvrtok

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# Content

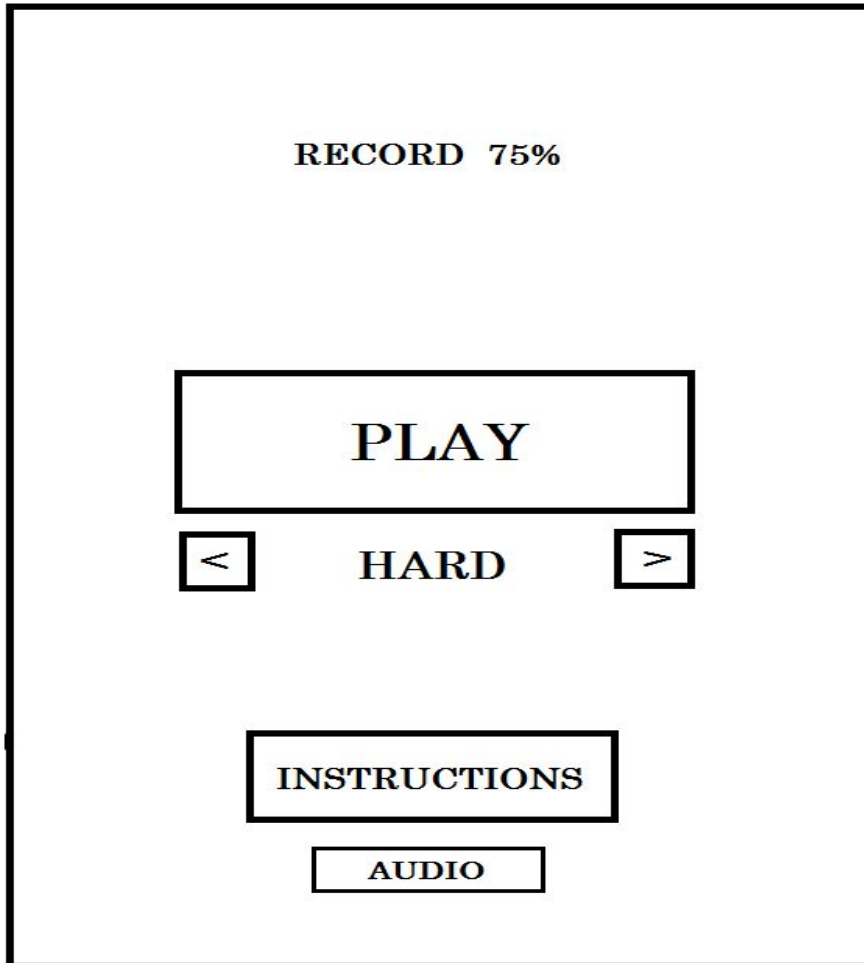
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# Concept

The main goal of the game is to shoot as many ducks as possible, while spending as few rounds of ammunition. To shoot you need to click the mouse on the screen, trying to hit the duck. One game consists of 5 waves. On each subsequent wave, the number of ducks and ammunition increases. The speed of the duck also increases. After each wave, the statistics of shot ducks and spent ammunition are displayed. At the end of the game, the final statistics with the percentage of accuracy appear. The best record will be displayed in the menu depending on the level of difficulty. The number of ducks is equal to the number of rounds. The wave ends when the bullets or ducks run out. Ducks fly on the playing field for a time determined by the level of difficulty and then fly away. The number of ducks that appear at a time is determined randomly (from 1 to 3).

# Screens

## *Menu*



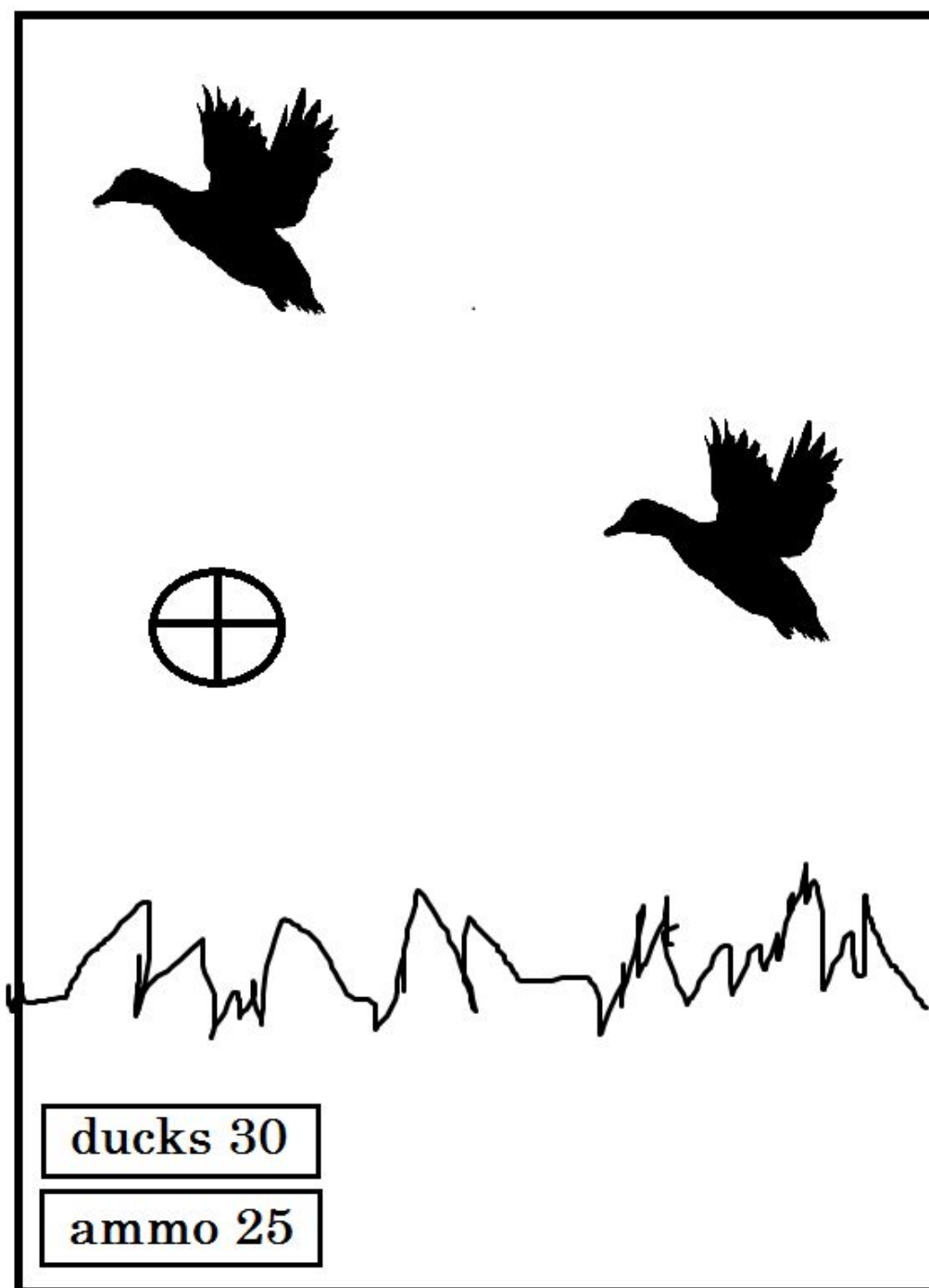
## *Instructions*

## INSTRUCTIONS

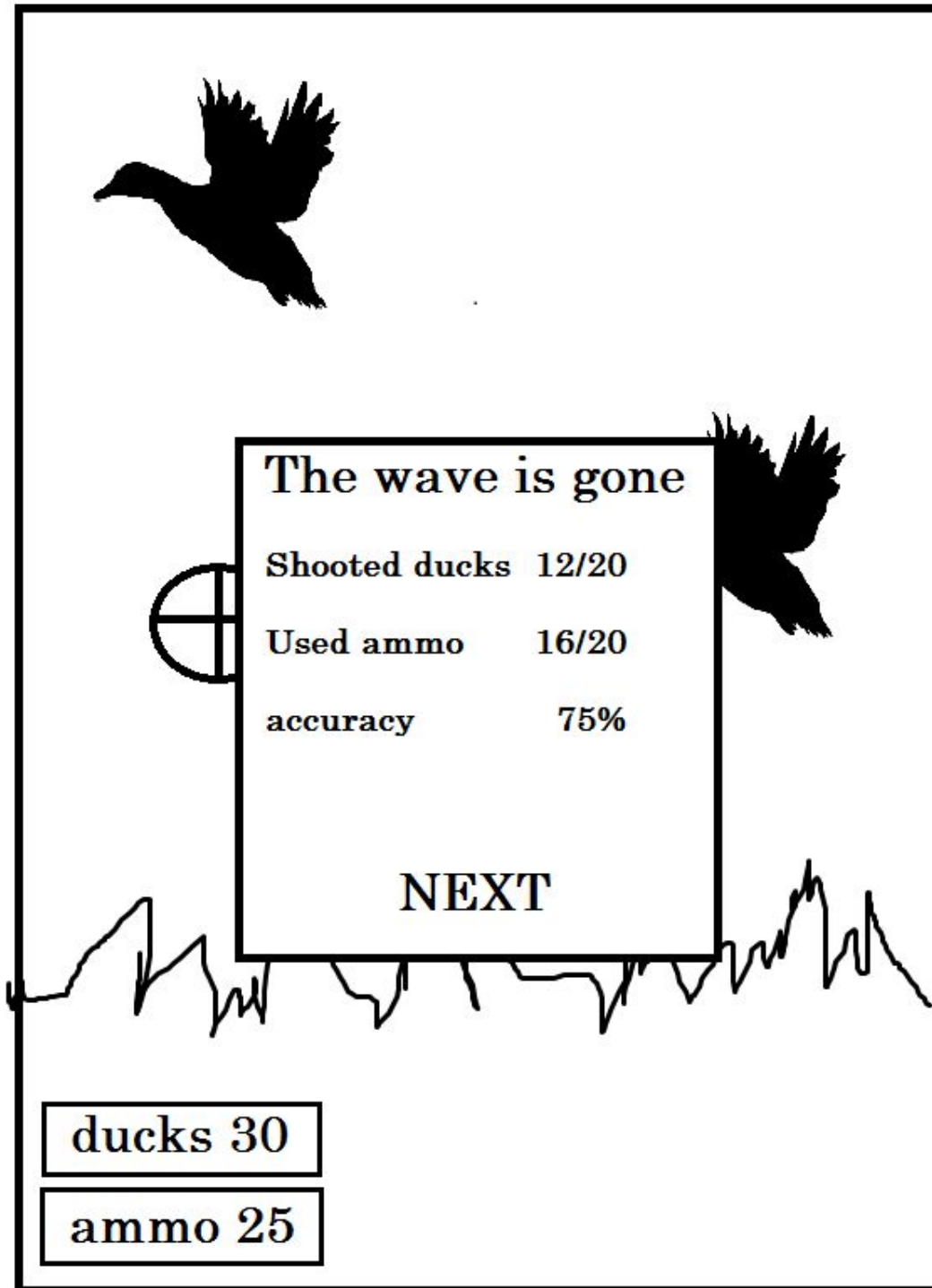
Lorem ipsum dolor sit amet,  
consectetur adipiscing elit.  
Etiam iaculis suscipit eros eu  
congue. Nulla facilisi.  
Pellentesque tincidunt mauris  
nec ultrices tempor. Aenean  
vulputate augue ultrices ex  
rhoncus facilisis. Donec laoreet  
tincidunt nulla, ut cursus magna  
sagittis condimentum.  
Vestibulum finibus dignissim  
leo. mes ac turpis egestas.

BACK

*Playing*



## *The end of the wave*



## Controls

The whole gameplay is carried out with the mouse. By clicking the left mouse button on the screen, a shot is made. Moving the mouse moves the sight. Control from the keyboard is not provided

## OOP

```
class Duck
```

```
int x // x coordinate of the duck
```

```
int y // y coordinate of the duck
```

```
int timeBeforeFlyAway //5-15 sec
```

```
int direction //direction of the duck (0-360 degrees)
```

```
bool IsShot //is the duck shot or not
```

```
string skin //path to the duck skin
```

```
Duck() //constructor
```

```
void draw()
```



```
void checkColl() // check collision with another duck  
( can call rotate() to change direction)  
void move() //Change position of the duck  
void rotate() //Change direction of the duck  
void flyAway() // fly up when time is passed  
Void fallDown()// fall down after shooting  
void shoot(int x, int y) //change IsShot attribute if  
matches coordinates of the bullet
```

```
class Bullet
```

```
int x // x coordinate of the bullet  
int y // y coordinate of the bullet
```

```
void DrawParticles() //add effect of particles after  
exploding  
void playAudio()
```

```
class Statistics
```

```
int ducks
```

int bullets

Float accuracy

void DuckPlus() //add 1 to ducks

void BulletsPlus() //add 1 to bullets

float calcAccuracy() // ducks / bullets

## Class Wave

int ComplexityLevel // 1 - low, 2 - medium, 3 - high

int ducksNumber // 5-20 count of ducks

int speed // 0.5 - 1 Speed of the ducks

bool useAudio //use sounds or not

void SpawnDuck() //Add a duck on the game screen

void play() //Managing of game(spawning ducks,  
ending of wave, etc)

# **Assets**

## *Sounds*

<https://freesound.org/people/Marregheriti/sounds/266105/> - shot  
<https://soundbible.com/1706-Shot-Gun.html> - additional shot  
<https://freesound.org/people/jaredi/sounds/215309/> - sounds of ducks  
<https://soundbible.com/1378-Quack-Quack.html> - Quack  
<https://freesound.org/people/crazyduckman/sounds/185548/> - dead duck

## *Images*

<https://opengameart.org/content/fly-to-freedom-handpainted-asset-pack> -  
main images  
<http://www.pngall.com/?p=49801> - aim  
<https://imgbin.com/png/GiL3r1NX/common-reed-png> - additional grass  
<https://pixabay.com/photos/autumn-landscape-pond-forest-trees-2691859/>  
- additional background