



Univerzitet u Sarajevu
Elektrotehnički fakultet Sarajevo
Odsjek za računarstvo i informatiku



Korisnička uputstva – Snake Game

Ugradbeni sistemi

Ime i prezime: **Din Švraka 18857**
Ismar Višća 18912
Grupa: **četiri (4)**
Datum: **09.06.2022.**

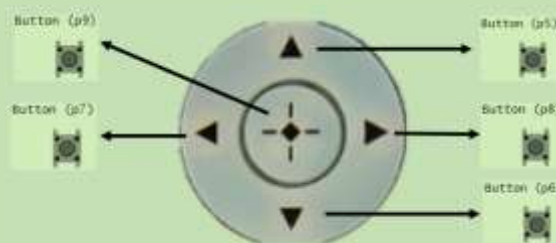


Cilj igre:

Uloviti sve miševе i za što manje vremena preći sva 3 nivoа.

Priprema:

Prije početka igranja igrice, potrebno je upoznati se načinom korištenja tasterа. Pritiskom tasterа p5 zmija se kreće prema gore, tasterа p6 prema dolje, tasterа p7 prema lijevo i tasterа p8 prema desno. Za odabir željene opcije potrebno je pritisnuti taster p9. Prilikom navigiranja na željenu opciju možete koristiti tastere za pomjeranje gore (p5) i dolje (p6).



Igra:

Igrač započinje igru tako što klikne na opciju START. Igra je podijeljena u 3 nivoа, a na početku se otvara prvi nivo. Zmija je crvena tačkica, a miševi su bijele tačkice. Zmija se kreće (mijenja smjer) korištenjem tasterа.



Nivoi 1 i 2:

Prvi nivo je najlakši i cilj je uloviti 10 miševa kako bi se ovaj nivo uspješno završio. Nakon toga se otvara ekran na kojem postoje dvije mogućnosti NEXT LEVEL ili RESTART, kao i trenutni bodovi (Score) i utrošeno vrijeme (Time). Nakon što izvršite odabir željene opcije otvara se drugi nivo. Odabir opcije NEXT LEVEL omogućava prelazak na nivo 2, a odabir opcije RESTART omogućava igru od početka. Drugi nivo je teži od prvog, zmija je brža i veća, a potrebno je uloviti 15 miševa da bi se ovaj nivo uspješno završio. Nakon toga se otvara ekran veoma sličan prvom. Odabir opcije NEXT LEVEL omogućava prelazak na nivo 3, a odabir opcije RESTART omogućava igru od početka (odnosno od prvog nivoа).



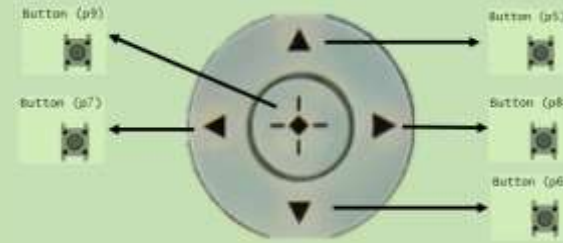
The goal of the game:

Catch all the mice and pass all 3 levels in as little time as possible.

What to do before playing?

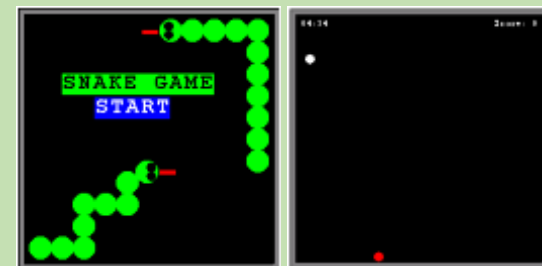
Before you start playing the game, you need to get acquainted with how to use buttons. By pressing the button p5 the snake moves upwards, the button p6 downwards, the button p7 to the left and the button p8 to the right.

To select the desired options, press the p9 button. When navigating to the desired option, you can use buttons to move up (p5) and down (p6).



Game:

The player starts the game by clicking on the START option. The game is divided into 3 levels, and the first level opens at the beginning. The snake is a red dot, and the mice are white dots. The snake moves (changes direction) using the buttons.



Levels 1 and 2:

The first level is the easiest and the goal is to catch 10 mice to complete this level successfully. After that, a screen opens where there are two options NEXT LEVEL or RESTART, as well as the current points (Score) and time spent for playing (Time). After selecting the desired option, the second level opens. Selecting NEXT LEVEL allows you to go to level 2, and selecting RESTART allows you to play from the beginning. The second level is harder than the first, the snake is faster and bigger, and it is necessary to catch 15 mice in order to successfully complete this level. After that, a screen very similar to the first one opens.

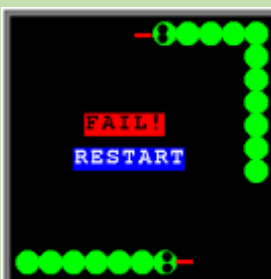
Selecting NEXT LEVEL allows you to go to level 3, and selecting RESTART allows you to play from the beginning (from the first level).





Pobjeda (nivo 3):

Treći nivo je najzahtjevniji, zmija se kreće najbrže, najduža je i potrebno je da ulovi 20 miševa. Nakon uspješno ulovljenih miševa, igra se završava i postajete pobjednik. Ukoliko niste uspjeli ostvariti maksimum od 100 bodova niste postali apsolutni pobjednik, ali vam i dalje čestitamo! Klikom na opciju NEW GAME možete početi igrati Snake Game iz početka.



Poraz:

Ukoliko zmija ujede samu sebe za rep, automatski postajete gubitnik, te je jedina opcija koja vam preostaje ta da odaberete RESTART opciju, odnosno počnete igrati igru od početka.

Bodovanje:

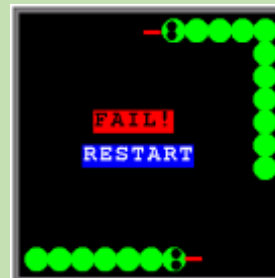
Konačni bodovi (Score) se računa na poseban način: $score = 75 + \frac{200}{vrijeme}$, pri čemu je varijabla *vrijeme* jednaka ukupnom broju utrošenih minuta. Dakle, ako uspijete preći sva tri levela za 8 minuta (ili manje) osvajate 100 bodova, te postajete apsolutni pobjenik igrice. Na zadnjem ekranu će pisati konačni bodovi (Score) i utrošeno vrijeme (Time), dok će na ekranima između levela pisati do tada iskorišteno vrijeme i do tada postignuti bodovi. Tokom lova na miševе, primijetiti ćete mjerač vremena u gornjem lijevom uglu, i brojač ulovljenih miševa u gornjem desnom uglu.

Primjer zbroja bodova:

Nivo 1	Nivo 2	Nivo 3
Time: 02:12, Score: 50	Time: 05:57, Score: 75	Time: 10:00, Score: 95
Vrijeme utrošeno na hvatanje miševa je 2 minute i 12 sekundi, a Score je broj jednak 50.	Vrijeme utrošeno na hvatanje miševa je 3 minute i 45 sekunde, ali se ovdje upisuje ukupno vrijeme za nivoe 1 i 2. Score je 75.	Vrijeme utrošeno na hvatanje miševa je 4 minute i 3 sekunde, ali se ovdje upisuje ukupno vrijeme za sva tri nivoa. Score je jednak $75 + \frac{200}{10} \approx 95$

Winning (level 3):

The third level is the most demanding, the snake moves the fastest, it is the longest and it is necessary to catch 20 mice. After successfully catching mice, the game ends and you become the winner. If you did not manage to achieve the maximum of 100 points, you did not become the absolute winner, but we still congratulate you! By clicking on the NEW GAME option you can start playing Snake Game from the beginning.



Defeat:

If the snake bites itself on the tail, you automatically become a loser, and the only option left for you is to select the RESTART option and start playing the game from the beginning.

Scoring:

Final points (Score) are calculated in a special way: $score = 75 + \frac{200}{time}$, where the variable *time* is equal to the total number of minutes spent. So, if you manage to cross all three levels in 8 minutes (or less) you win 100 points, and you become the absolute winner of the game. On the last screen it will be written the final score (Score) and the time spent (Time). While hunting mice, you will notice a timer in the upper left corner, and a counter of caught mice in the upper right corner.

An example of the sum of points:

Level 1	Level 2	Level 3
Time: 02:12, Score: 50	Time: 05:57, Score: 75	Time: 10:00, Score: 95
The time spent catching mice is 2 minutes and 12 seconds, and the Score is equal to 50.	The time spent catching mice is 3 minutes and 45 seconds, but the total time for levels 1 and 2 is entered here. Score is equal to 75.	The time spent catching mice is 4 minutes and 3 seconds, but the total time for all three levels is entered here. The score is equal to $75 + \frac{200}{10} \approx 95$



Sada je potrebno da odete na web stranicu <http://mbed.webredirect.org/> i pokrenete igricu na način opisan u dodatku.



Now you need to go to <http://mbed.webredirect.org/> and run the game as described in the appendix.

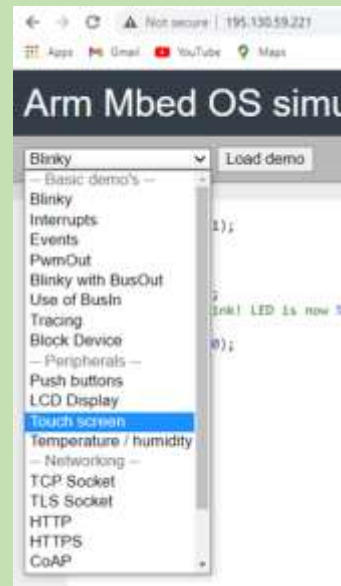
Dodatak

Za uspješno pokretanje igrice Snake Game potrebno je proći kroz sljedeće korake:

1. Potrebno je otići na stranicu <http://mbed.webredirect.org/>



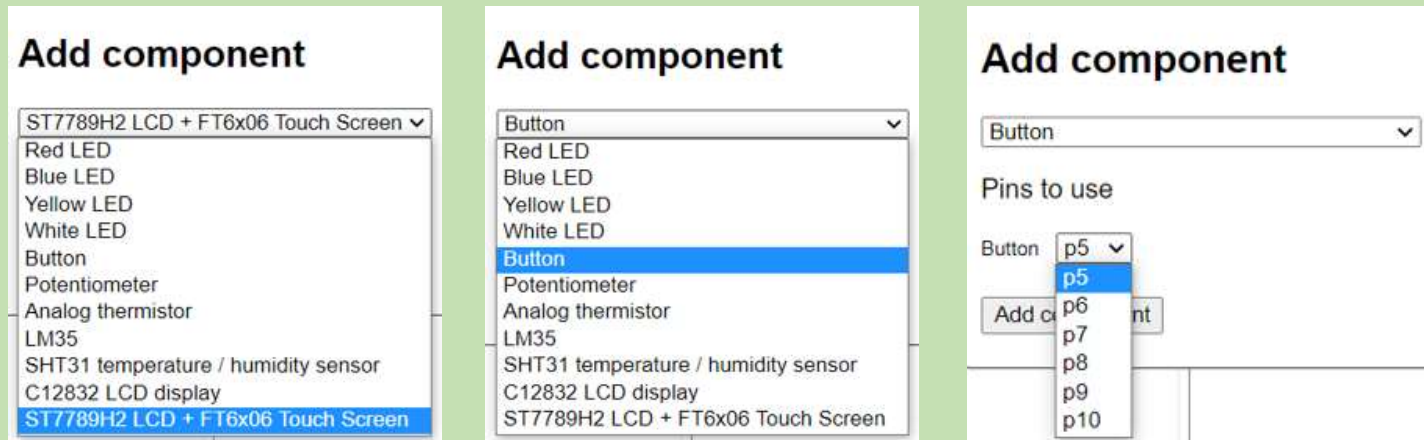
2. Na mjestu gdje piše Blinky je potrebno odabrati opciju Touch screen



3. Na desnoj strani je potrebno kliknuti opciju **+Add component**



4. Potrebno je odabrati **ST7789H2+FT6x06**, a nakon toga 5 tastera **p5, p6, p7, p8 i p9**



5. Sada bi vam ekran trebao izgledati kao na sljedećoj slici



6. Umjesto koda na lijevoj strani, kopirajte kod za igricu Snake Game i nakon toga kliknite opciju Run. Nakon što to uradite, možete započeti igru.

