Universitatea Tehnica "Gheorghe Asachi" Iasi

Facultatea de Automatica si Calculatoare

Specializarea Claculatoare si Tehnologia Informatiei

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Programarea Aplicatiilor Orientate pe Obiect

Proiect

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Grupa 1209B

Jeff's Story

Brumă Elena-Petruța

Plot: You are Jeff. Jeff is a regular at his favorite burger place, Bob's Burger. He has known that family for over 10 years, and the kids love to play with him. One day, Louise loses her bracelet in the storage room, and she cannot find it. You, being the nice soul you are, offer your help. Little did you know that Louise will push you thru the storage room door, and you will trip and fall into a portal into another dimension. All you can hear while you are falling is Louise's voice telling you to find the djin.

GamePlay: Single player in which you have to find your way home, by killing the djin that will, out of respect grant you a wish. During your quest, kill as many monsters and eat as much as possible to get maximum points. You lose if you die in battle (your life gets to 0).

CHARACTERS:

- Jeff: is the protagonist and player-character. He likes Bob's burgers more than anything in the world, so he will do anything to come back.
- Goblin: your not-so-friendly neighborhood goblin. You can find him when you expect it the least.
- Rat: Just a rat. He bites if you get too close.
- Cat: You may find her guarding a chest. If you pet her she will let you get to the chest.
- Dragon: he is the guard of the dungeons. The only way to get to the djin is to kill him.
- Djin: The almighty sovereign of the realm. If you win his respect, he will grant you 1 wish.

MECHANICS: The player moves up, down left, right with the direction keys. You can hit a monster, pet a cat, eat or open a chest with the A,S,D,W keys, depending on the direction(A-left, S-down, D-right, W-up). The food increases your life and score. If you kill the monsters, you get score points.

The game is won when you kill the Djin.

SPRITESHEETS:

BAZA DE DATE

Proiectul implementeaza si o baza de date, score_db, care retine numarul jocului, ora si minutul la care s-a incheiat jocul, cat si scorul cu care jucatorul a terminat. In timpul jocului, Highscore-ul memorat in baza de date este afisat sub scorul curent, in coltul din stanga sus al ecranului.

ARHITECTURA JOCULUI:

Jocul contine un pachet principal, care la randul sau contine alte 8 pachete.

GAME

- Clasa Game : Clasa principal a jocului, in care se se implementeaza toate metodele Update() si Draw()
- Clasa Main: Clasa in care se construieste
- Clasa RefLink : Aceasta clasa retine referinte catre obiectele Game si Map pentru a usura accesul
- **GAMEWINDOW**
  - Clasa GameWindow: implementeaza notiunea de fereastra de joc si incapsuleaza toate elementele grafice

- **GRAPHICS –** *implementeaza toate metodele de care avem nevoie pentru a crea si obtine obiecte grafice (incarcare imagini, separarea dalelor din sprite, crearea de animatii)*
  - Clasa Animation: creaza si manageriaza animatiile entitatilor
  - Clasa Assets: incarca orice element grafic necesar jocului
  - Clasa GameCamera: realizeaza miscarea hartii in functie de miscarea eroului
  - Clasa ImageLoader: contine o metoda pentru incarcarea imaginilor
  - Clasa SpriteSheet: retine referinte pentru imagini facute din dale
  - Clasa Background: incarca o imagine de background care se misca
  - Clasa CharacterSheet: retine referinte pentru imaginea caracterului facuta din dale

- **INPUT**
  - Clasa KeyManager: Manageriaza inputul utilizatorului de la tastatura

- **ITEMS –** *incorporeaza toate obiectele din joc cu care se poate interactiona*
  - Clasa ItemManager: Manageriaza itemurile create in joc

- o Clasa Item: Clasa care implementeaza notiune abstracta de Item
- o Clasa Character: Mosteneste Item, implementeaza notiune abstracta de personaj
- o Clasa Hero, clasa Djin, clasa Cat, clasa Dragon, clasa Goblin, clasa Rat: Mostenesc clasa Character, iar fiecare are proprietati diferite
- o **STATICITEMS**
  - Clasa StaticItem: Implementeaza notiunea abstracta de item static
  - Clasa Chest, clasa Fire, clasa Peaches, Clasa Potion: Mostenesc StaticItem, fiecare avand proprietati diferite
- o **PRIZES**
  - Clasa Prize: Memoreaza premiile din joc
  - Clasa PrizeManager: Manageriaza premiile din joc
- **MAPS**
  - o Clasa Map: Creaza harta jocului
  - o Interfata Observer, Interfata Subject: folosite pentru implementarea Observer Design Pattern
- **SCORE**
  - o Clasa Score: tine evidenta scorului si il afiseaza
  - o Clasa ScoreDataBase: manageriaza baza de date care retine scorurile
- **STATES**- *incorporeaza toate starile programului. Fiecare stare are diferite proprietati si alt comportament*
  - o Clasa State: Implementeaza notiunea abstracta de stare a jocului/programului.
  - o Clasele AboutState, ExitState GameOverState, MenuState, PlayState, WinningState : implementeaza diferitele stari ale jocului
- **TILES**
  - o Clasa Tile: Retine toate dalele intr-un vector si ofera posibilitatea regasirii dupa un id.
  - o Clasele FirTreeTile, FloorTile, FrassTile, SandTile, SoilTile, TownSoilTile, TreeTile, WallTile,WaterTile: Mostenesc clasa Tile, implementeaza diferite tipuri de dale

DIAGRAME DE CLASE