

MASCOT MAYHEM

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OVERVIEW



Story

Open source mascots forced to
battle by the evil corporation Eboda
(mind control)



Gameplay

Two modes: stand-alone battles
versus the computer or another
player, or campaign mode where
you defeat eboda



Inspiration

Inspired by other fighting games
using existing characters like
smash or royalty-free-for-all
(check name in qdd)

HOW TO PLAY

01

Choose a game mode

Campaign which saves progress,
pvp

02

Pick a character

Choose your favourite open source
mascots

03

Choose an opponent/difficulty

In player vs computer battles you
can customize your enemy

04

Battle it out!!

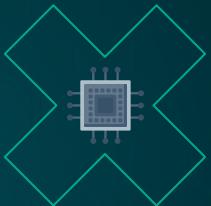
Attack, block, jump and even use a
special attack

CORE MECHANICS



Combat movement

Attacking, blocking etc



Varied characters

Unique characters for every playstyle



Campaign system

Multiple ai battles lead to a boss battle, progress is saved in text files

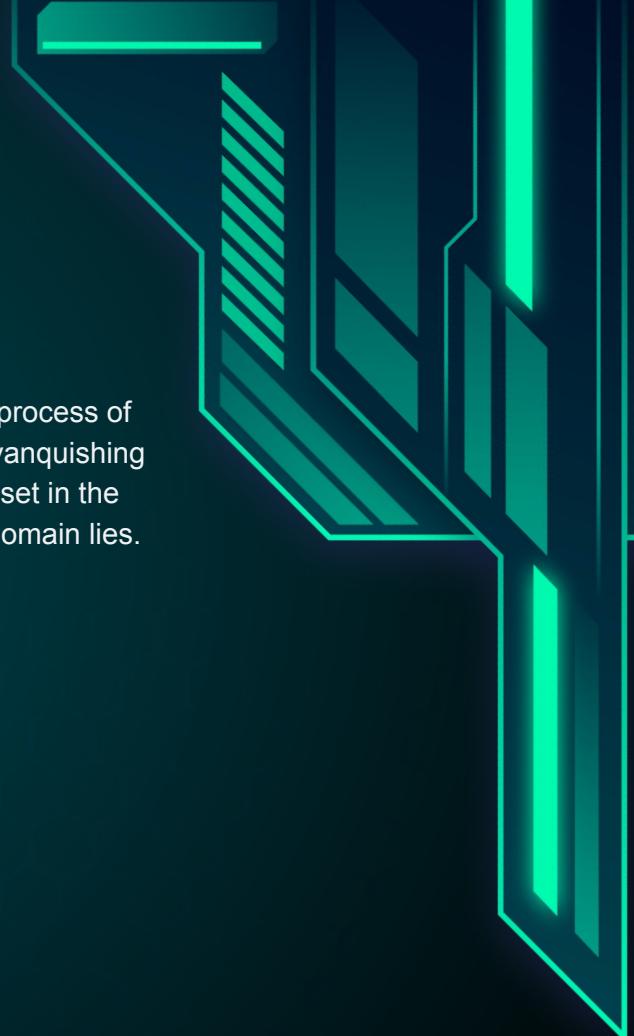


Various levels of CPU

Multiple ais of different difficulties

The storyline

The evil power of EbodA corrupts the mascots to fight against each other, through the process of bringing them to ~~CL-OUD~~, and turns them into their minions. Campaign is a road to vanquishing EbodA, on which they have to fight and then liberate their fellow mascots. The story is set in the fictional city of ~~CL-OUD~~(which is a direct analogy to cloud storage), where EbodA's domain lies.



```
private void block()
{
    blocking=true;
    setSprite(leftBlockSprite,blockSprite);
}

protected void attack()
{
    unblock();
    if(attackCooldown<=0){
        attackCooldown=15;
        setSprite(leftHitImage, hitImage);
        Actor victim = getOneIntersectingObject(Player.class);
        Player jumpee = (Player) victim;
        if(victim!=null){
            jumpee.takeHit(damage*damageMultiplier);
        }
        Greenfoot.delay(10);
        setSprite(leftBaseSprite,baseSprite);
    }
}

protected void jump()
{
    unblock();
    if(!jumping){
        jumping = true;
        jumpTimer = 0;
    }
}
```

```
private void moveRight()
{
    unblock();
    move(1*speedMultiplier);
    if(facingLeft){
        facingLeft=false;
        setSprite(leftBaseSprite,baseSprite);
    }
}

private void moveLeft()
{
    unblock();
    move(-1*speedMultiplier);
    if(!facingLeft){
        facingLeft=true;
        setSprite(leftBaseSprite,baseSprite);
    }
}

protected void jumping(){
    if(jumping){
        if(jumpTimer<50){
            setLocation(getX(),getY()-6);
        }
        else if(jumpTimer<100){
            setLocation(getX(),getY()+6);
        }
        else{
            jumping=false;
        }
        jumpTimer++;
    }
}

protected void unblock(){
    if(blocking){
        blocking=false;
        setSprite(leftBaseSprite,baseSprite);
    }
}
```

```
public void completeLevel()
{
    if(currentLevel==4) return;
    try{
        ++currentLevel;
        System.out.println("completeLevel(); currentLevel (post-increment): "+currentLevel)
        saveFileWriter=new FileWriter(saveName,true);
        saveFileWriter.write(currentLevel+";");
        saveFileWriter.close();
        System.out.println("completeLevel(): new level written");
    }
    catch(IOException e){
        System.out.println("An exception occurred.");
        e.printStackTrace();
    }
}

public void nextLevel()
{
    completeLevel();
    Greenfoot.setWorld(getLevel());
    System.out.println("new world set, level: "+currentLevel);
}

public void start()
{
    File f = new File(saveName);
    if(f.length()==0){
        Greenfoot.setWorld(new CharacterSelect(true,saveName,this));
    }
    else{
        Greenfoot.setWorld(getLevel());
    }
}
```

```
public void decodeToken(String token)
{
    switch(token){
        //character tokens
        case "6":
            playerCharacterString="Duke";
            playerCharacter=6;
            break;
        case "5":
            playerCharacterString="Gnu";
            playerCharacter=5;
            break;
        case "2":
            playerCharacterString="Keith";
            playerCharacter=2;
            break;
        case "7":
            playerCharacterString="Suzanne";
            playerCharacter=7;
            break;
        case "3":
            playerCharacterString="Tux";
            playerCharacter=3;
            break;
        case "1":
            playerCharacterString="Wilbur";
            playerCharacter=1;
            break;
        //level tokens
        case "10":
            //agaisnt easy ai
            currentLevel=10;
            break;
        case "11":
            //agaisnt medium ai
            currentLevel=11;
            break;
    }
}
```

```
public Duke(boolean playerOne,boolean aiControlled,int aiDifficulty,boolean campaign,int currentLevel,String saveName)
{
    super(playerOne,aiControlled,aiDifficulty,"dukeTEMP.png","dukeHitTEMP.png",campaign,currentLevel,saveName);
    baseSprite="dukeTEMP.png";
    hitImage="images/dukeHitTEMP.png";//obviously not this CHANGE WHEN WE HAVE THE SPRITES
    hitPoints=100;
    damage=7;
    cooldownMaximum=17;
    characterReference=6;
    bio="\n                    Duke: \n The sweetest robot, and Keith's best \nfriend. Loves slapping those who annoy \n        him, but can sho
}

public void act()
{
    super.act();
    players=getWorld().getObjects(Player.class);
}

public void triggerUltimate(){
    if(ultPossible()){
        super.triggerUltimate();
        laserLine = new GreenfootImage(1280,720);
        laserLine.setColor(Color.RED);
        laserLine.setFont(new Font(50));
        Player target;
        AddedImage laser = new AddedImage(750,false,false);
        if(playerOne){
            target = (Player) players.get(1);
        }
        else{
            target = (Player) players.get(0);
        }
        laserLine.drawLine(getX(),getY(),target.getX(),target.getY());
        laser.setImage(laserLine);
        getWorld().addObject(laser,getWorld().getWidth()/2,getWorld().getHeight()/2);
        target.takeHit(50);
    }
}
```

```
public void actionsAI(String playerAction)
{
    setUp();
    chargeUltimate();
    int roll = Greenfoot.getRandomNumber(100);
    jumping();
    if(runningAway){
        runAway();
    }
    if(moving){
        moveAI();
    }
    if(roll<stopMovingCheck&&moving){
        moving=false;
    }
    else if(roll<startMovingCheck&&!moving&&getOneIntersectingObject(Actor.class)==null){
        moving=true;
    }
    if((playerAction=="attack"&&Greenfoot.getRandomNumber(100)<defenseCheck&&(getOneIntersectingObject(Actor.class)!=null)) {
        if(roll<blockCheck){
            block();
        }
        else if(!runningAway){
            runTimer=30;
            runningAway=true;
            speedMultiplier=speedMultiplier*-1;
        }
    }
    else if(roll<ultCheck&&willUltimateHit&&ultPossible()){
        triggerUltimate();
    }
    else if(roll<attackCheck&&getOneIntersectingObject(Actor.class)!=null){
        attack();
    }
}
```

```
public void setUpAI()
{
    switch(aiDifficulty){
        case 0:
            startMovingCheck=3;
            stopMovingCheck=4;
            defenseCheck=30;
            blockCheck=15;
            ultCheck=25;
            attackCheck=40;
            break;
        case 1:
            startMovingCheck=6;
            stopMovingCheck=2;
            defenseCheck=60;
            blockCheck=30;
            ultCheck=50;
            attackCheck=70;
            break;
        case 2:
            startMovingCheck=8;
            stopMovingCheck=1;
            defenseCheck=70;
            blockCheck=50;
            ultCheck=70;
            attackCheck=90;
            break;
    }
}
```

Related Games

Super Smash Bros

Super Smash Bros Ultimate is a renowned fighting game that opposes characters from different video game franchises. The incredible diversity in the movesets of the 89 characters is part of the reason this game is so beloved. Very similar to our game in the sense that they are both 2D fighting games.

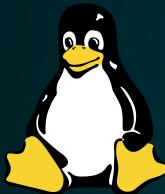
Footsies

Footsies is a very simple 2D fighting game created by HiFight. Footsies keeps the move set incredibly simple, only allowing the players to move horizontally and attack.

Catari Brealuiqi

Catari Brealuiqi is an Atari Breakout clone using pieces of the Scratch Cat's body parts as the paddle. This is one of our main inspirations for the game's art direction. The subtle horror of the game's art is another aspect which we wish to replicate in our own art.

Game Characters



Tux

- ❖ Mascot of the linux OS
- ❖ Penguin
- ❖ Attacks by kicking his feet
- ❖ Ultimates by jumping up in the air and slamming down on his opponent, guaranteed to hit
- ❖ Has a massive rivalry with Gnu
- ❖ Medium health
- ❖ Average attack speed and damage
- ❖ The “introductory” character, similar to Mario in SSMB or Sol Badguy in GGS



- ❖ Mascot of the GNU operating system/program suite
- ❖ Anthropomorphic wildebeest
- ❖ Has a massive rivalry with Tux
- ❖ Attacks by headbutting his opponent
- ❖ Ultimates by creating a clone of himself
- ❖ High hit points
- ❖ Slow, but highly damaging attacks



Wilbur

- ❖ Mascot of the GIMP image manipulation software
- ❖ A “qimp”, a sort of fusion of a dog, a fox, and a coyote
- ❖ Mentally unstable
- ❖ Attacks by swinging his paint brush
- ❖ Ultimates by painting an X across the screen which deals periodic damage to the opponent if they are standing in it, and which disappears after a short time
- ❖ Low hit points
- ❖ High attack speed, medium-low damage

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Keith.

- ❖ Unofficial mascot of the c++ programming language
- ❖ The chosen one, but he doesn't know it
- ❖ Duke's best friend
- ❖ Attacks by biting
- ❖ Ultimates by buffing his attack massively, but weakening his defence significantly
- ❖ Low hit points
- ❖ Very high speed, but low damage



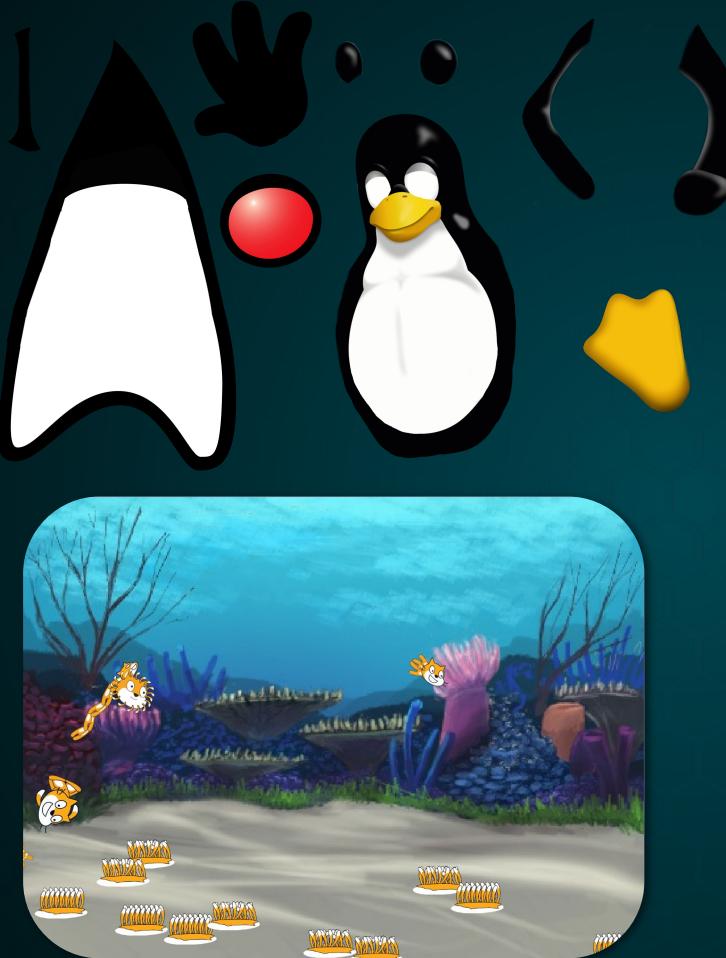
Duke

- ❖ Mascot of the java programming language
- ❖ A "software agent", a kind of robot assistant thing
- ❖ Keith's best friend
- ❖ Attacks by slapping
- ❖ Ultimates by shooting a highly damaging laser from his eye for a few seconds
- ❖ Medium hit points
- ❖ Medium-low attack speed, medium-high damage



Suzanne

- ❖ Mascot of Blender, the open source 3d image manipulation program
- ❖ Monkey
- ❖ Attacks by stabbing with her banana
- ❖ Ultimates by decreasing her movement speed and turning into a tornado, which deals constant damage to opponents who touch it
- ❖ Average hit points
- ❖ Medium-low attack speed, medium-high damage



Art Direction

- ❖ Heavily inspired by the Catari Brealuiqi art style.
- ❖ The game uses the parts of mascots to make unique characters.
- ❖ Each character is split into pieces to make animation simpler.

Mechanics analysis

Attacking	The main way in which players interact with their opponent, successfully landing an attack causes the opponent to lose hit points. When a player or a npc has 0hp they lose. Each character has a unique style of attacking, which varies the gameplay opportunities.
Ultimating	Each character will have one ultimate attack that makes them unique. They can use their ultimate after fully charging their ultimate meter, which has a chance to charge each tick. Being hit also will charge this meter massively.
Blocking	Blocking allows players to attempt to reduce the damage they take from their opponent's attacks, but prevents them from moving or attacking.
Strategic Character Selection	Small differences between characters allows players with many different playstyles to enjoy themselves.

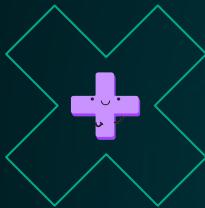


Challenges faced

- ❖ Getting all the codes to work with each other
- ❖ Ai: Figuring out how the Ais would react to the players input
- ❖ Save system: Getting the campaign system to be able to tell what level the player got to and to get it to start back up from that specific level
- ❖ Character balance: Balancing the characters but still allowing each of them to be different and unique
- ❖ Time Management: A large amount of sprites needed to be created in a relatively short amount of time

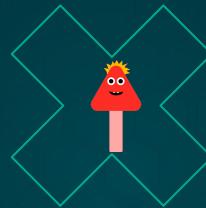


Possible future enhancements



Additional Characters

There are currently 6 playable characters. More could be added in the future.



More Levels

More challenging levels could be added, allowing the campaign mode to be longer.



Improved Combat mechanics

Different moves and maybe combos could be added, making the attacking aspect more diverse.

Contributions

Codes - Madeleine & Mathieu

Save System - Mathieu

Duel System - Mathieu

Character select - Mathieu

Audio - Mathieu

Movement - Madeleine

Combat System - Madeleine

Sprites - Madeleine & Amber

Powerpoint - Amber

Sources

- "The Story of Tux, the Most Famous Mascot of Free Software." Linux Adictos, <https://en.linuxadictos.com/the-story-of-tux-the-most-famous-mascot-of-free-software.html>
- "GNU mascot" GNU Project, <https://www.gnu.org/education/edu-resources.html>
- "Wilber GIMP mascot." PNGHut, <https://pnghut.com/search/wilber-gimp-mascot>
- "C++ programming language mascot image." Lunduke Locals, <https://freesvg.org/tornado>
- "Duke Java mascot." VHV, https://www.vhv.rs/viewpic/hwTRJbi_duke-java-hd-png-download/
- "Suzanne the Blender monkey." Dummies, <https://www.dummies.com/article/technology/software/animation-software/blender/meet-suzanne-the-blender-monkey-142918/>
- "Real Swish_3" <https://pixabay.com/sound-effects/real-swish-3-304242/>
- "Computer Mouse Click 02" <https://pixabay.com/sound-effects/computer-mouse-click-02-383961/>
- "VINE BOOM" <https://pixabay.com/sound-effects/vine-boom-392646/>
- "power up (Type 1)" <https://pixabay.com/sound-effects/power-up-type-1-230548/>
- "Start-stop stopwatch" <https://pixabay.com/sound-effects/start-stop-stopwatch-364924/>
- "Ticking Clock_1" <https://pixabay.com/sound-effects/ticking-clock-1-27477/>
- "Tornado" <https://freesvg.org/tornado>
- "Banana" <https://www.publicdomainpictures.net/en/view-image.php?image=541136&picture=banana-fruit-isolated>
- "Monkey" <https://www.vecteezy.com/png/67216910-playful-capuchin-monkey-isolated-for-wildlife-animal-behavior>
- "Red E" <https://freesvg.org/effect-letters-alphabet-red-e-acute>
- "Matrix background" <https://unsplash.com/fr/photos/photo-du-film-matrix-iar-afB0QQw>
- "Suit" <https://freesvg.org/black-suit-jacket-vector-illustration>
- "Technoid Bassline by Alien I Trust (125_Bpm) (2)"
<https://pixabay.com/sound-effects/technoid-bassline-by-alien-i-trust-125-bpm-2-244446/>
- "Technoid Bassline by Alien I Trust (125_Bpm) (3)"
<https://pixabay.com/sound-effects/technoid-bassline-by-alien-i-trust-125-bpm-3-244448/>
- "Alien Invasion" <https://pixabay.com/sound-effects/alien-invasion-276471/>