Game Concept

Game Title:
Dunk A Prof.

Summary:
Dunk-A-Prof is a computer game simulating festival carnival dunking games. Dunk victims appear on a platform over their liquid-filled tanks. Victims are Professors, Deans, and Trustees. The player throws objects to strike targets designated to specific dunk victims; and thereby dunking the targeted character. Dunked Professors and Deans sink into blue water and emerge safely, whereas Trustees fall in green acid and emerge skeletal.

Purpose:
This is a stress-reliever game were target audience are College Students.

Theme:
Cartoonish College Setting.

Dunk-able characters:
-Professor: College Professor.
-Dean: College Dean.
-Trutee: falls into an acid tank and shreds the skin off.

Technical Details

Programming Language:
Oracle Java SE 8.
API(s): swing.JFrame

Recommended Minimum System Requirements:
CPU: 1.2Ghz Single Core Processor
RAM: 512MB
Graphics: 64MB Video Memory
Disk Space: 256MB Free Space

Target Platform:
Oracle Java 1.8.0 VM Capable OS such as:
-Ubuntu Linux 12.04 LTS or Later
-Windows Vista Or Later
-Mac OS X 10.8.3+
For more check: https://www.java.com/en/download/help/sysreq.xml

Game Window Size:
Width: 800px
Height: 600px

Disclaimer:

This is an ongoing project. Any part of the written specifications may change due to various circumstances. Although specs team will trive to enssure stability of the ongoing increasing and improvement of specifications; most of the specificaitons can be considered **tentative**. Undetermined specifications that have large impacts on the project, will be placed on the **Ongoing Discussion** section as things to watch out on not to be solidly implemented yet.

Color Coding:
   Red: Do not implement since specs is still in progress
   Blue: Can be implemented but specs needs to add more descriptive detail
   Green: Can be implemented right away

Current Game Specifications
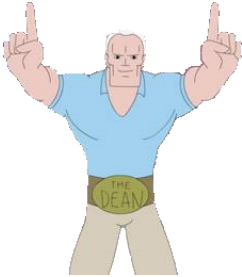
Game Components:

Dunk-able Characters:
(add descriptive detail. Ex. We don't have gender or rance diversity)

Resizing Images:
Images are scaled using java's built-in **Scaled Default** algorithm.

Bounding Box:
Used for collision detection. The size is the same as the corresponding characters.

College Dean:	College Professor:	Trustee:
		Animated using 28 images

Size:
    Width: 78px
    Height: 128px
Starting Coordinates:
    x-position: 361px
    y-position: 146px
Moves to:
    x-position: 361px
    y-position: 105px
	Size:
	    Width: 69px
	    Height: 120px
	Starting Coordinates:
	    x-position: 80px
	    y-position: 157px
	Moves to:
	    x-position: 80px
	    y-position: 105px
		Size:
		    Width: 80px
		    Height: 116px
		Starting Coordinates:
		    x-position: 666px
		    y-position: 198px
		Moves to:
		    x-position: 666px
		    y-position: 105px

Dunk Tank:
(add descriptive detail)

    Quantity: 3 tanks (1 per character)
    Size:
        Width: 130px
        Height: 210px
    Postion:
        Tank #1:
            x-position: 640px
            y-position: 195px
        Tank #2:
            x-position: 335x
            y-position: 195px
        Tank #3:
            x-position: 11px
            y-position: 195px

Slider:
It is a bar that indicates player's position in which the player will shot from. Even though players have control of when to shoot a projectile, players don't have control on whether or when the slider moves left and/or right.

Size:

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   Width: 128px
   Height: 24px

Movement:
   Starting Position:
      x-position: 0px
      y-position: 500px
   End Position:
      x-position: 750px
      y-position: 500px
   Speed:
      5px per refresh
      cycle
```


Projectile:
(add descriptive detail)
Projectile can be shot at an angle using left, up or right arrow keys.

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Size:
   Width: 50px
   Height: 50px
Movement:
   Starting Position:
      Depends on the Slider
   End Position:
      Projectile disappears after
      reaching outside the end of the
      Game Screen.
   Speed:
      30px per refresh cycle
   Bounding Box:
      Same size as the projectle. Used
      for collision detection.
```


Apparears:	Disappears:

Game Mechanics

Collision and Dunking Action:
(add puffing smoke description)

Collision: The dunk victims are the target themselves. Each character falls into the dunk tank once their bounding	**Dunking:** The character then falls at a rate of 5px per cycle to their tank. The character then 'undunks' and

box overlaps with the bounding box of the projectile.

vanishes from the screen. They then reappear in the starting position.

Timer:

It is a text display placed on the top-left of the screen; that shows many seconds does the player have left for the round.

Font:
    Face: Agency FB Regular
    Size: 36pt
Position:
    x-position: 145px
    y-position: 5px

Game Round Ending Condition:

The game clock counts down from 60 seconds to 0 seconds. When the clock reaches 0 a game over message appears on the screen.

Score Counter:
This counter shows how many characteres have been dunked in total.

Font:
    Face: Agency FB Regular
    Size: 36Pt
    Position:
        x-position: 40px
        y-position: 570px

Lives Label:
(currently not being used)

Font:
    Face: Agency FB Regular
    Size: 48Pt
    Position:
        x-position: 690px
        y-position: 500px

In-Game Controls:
    In-Game:
        Space-Bar: Throws Objects
        P Key: Pauses/Resumes Game

Background Image:

Size:
    Width: 800px
    Height: 600px

Additions and Changes to Be Implemented

In-Game Background Image: College background for the in-game background. (It would be nice if the college were to have college students surrounding the dunk victims.)

Acid Tank: in which the trustee will be dunked into and shred is skin off.

Main Menu: completely white at the moment with the following options
   Background Image: (to be determined)
   Options:
      Start Game: starts the game
        Difficulty Level: allows players to choose difficulty level?
      How to Play: (static image slide show showing the controls and objective)
      Exit: exits the game

Pressing the Enter Key After Game Round Ends: Instead of closing the game, the game loops back to the Main Menu.

Game Controls:
   Main Menu:
      Up-Down Arrow Keys: Changes Menu Selection
      Enter Key: Triggers Selected Option
   In-Game:
      Escape Key: Pauses/Resumes Game

Lives Counter Icons:

Starting Number Of Lives: 3
Size:
  Width: 45px
  Height: 47px
Position:
  x-position: 650px
  y-position: 550px	

Sounds: (should sounds be preloaded into memory)

Main Menu:
   Background Music: (to be determined)
In-Game:
   Background Music: (same as Main Menu?)

Shooting:
   Whoosh shound indicating thrown object is flying
   +FilePath:"dunkaprof\graphics\Swish sound effect (2).mp3" | Interval:2s to 3s.
   Only the swish part.

Player Misses Target/Character:
   1) Taunt from character
   2) Boos from the audience
   +FilePath:"dunkaprof\graphics\flat\soundfx\Background
   Noises\239595__xtrgamr__crowdbooing-01.wav" | Interval: 1.5s to 2.5s

Player Hits the Target/Character: (entire sequence put together should not last longer than 1.7s?)
   1) Clink/Pop indicating hit
   +For hitting Character-
   FilePath:"dunkaprof\graphics\flat\soundfx\wav3\Punch.wav" | Interval:0.5s to
   1.5s. Only first hit sound.
   +For hitting target- FilePath:"dunkaprof\graphics\Soundfiles\ Sword clash sound
   effect (2).mp3" | Interval:2.5s to 3.2s. Only the metal sound.

   2) Character Curses

3) Splash(Prof, Dean) / Scream(Trustee)
+FilePath:" dunkaprof\graphics\flat\soundfx\Water or Acid
sounds61015__kayyy__splash.wav" | Interval:0s to 1s. Only the dipping part.

4) Character Gargles under Water(Prof, Dean) / Sizzling Sound(Trustee)
+Missing Gargling sound
+Needs a strong Sizzling sound like when something is strongly frying under oil

5) Cheers from the audience
+FilePath:"dunkaprof\graphics\flat\soundfx\Background
Noises\221567__alaskarobotics__cheering-and-clapping-crowd-2.wav" | Interval:2s
to 3s.

How characters re-spawn after bein dunked:
   Dean/Professors: Blink and appear in place.
   Trustee: descend from the sky with the holy "aaaaahhh" angelic sound.

(these features are to be implemented only after a workable game is in place).

-Dunk condition:
Each character will have a different "health bar" associated with it that makes it more or less difficult to dunk them. Say the professor has a health level of 10, the dean has a health level of 15, and the trustee has a health level of 20.
The level of graphics related to dunked character to should be correspondingly rewarding.
Every character has a bar that keeps track of how close they are to falling. The bar can go up or down. If the characters target is hit the bar decreases. If the target passes the characters target n times the bar increases by some percentage. If the bar reaches 0% the character gets dunked.
Suggesting health bar gauge of value 30. 3 hits for target. 1 hit for character.

-Dunk-able characters reactions: Are triggered
   -Hitting:
     -Professor: "I will fail you"
     -Dean: "I will expel you"
     -Trustee: "I will close down your College"
   -Missing:
- Professor taunts when user misses n times: "you're a d+ player at best" (or something else)
- Dean taunts when user misses n times: "you'll never get into my graduate program" (or something else)
- Trustee taunts when user misses n times: "with students like you I'm clearly wasting my money" (or something)
- Professor pleads when user scores against them: "don't worry I'm grading from the curve" (or something)
- Dean pleads when user scores against them: " Please, a recommendation from me is like gold in your field" (or...)
- Trustee pleads when user scores against them: "Stop, Don't you know who I am".

-How to Lose:
   -Life based: A player start with limited number of lives. Once the player runs out of lives, it's game over.
   -Time based: Players don't loose. Game finishes when time coundown is 0.
     -Duration: every game (Round? Turn? Play-through?) will last for about 1 to 2 minutes.
   -All dunk-able characters down: If any characters health bar remains at 100% for n passes of the target the user looses. The game is finished once all characters are down.

Winning objective:
All dunk-able characters indefinitely re-spawn once they are dunked. Players strive to dunk as many dunk-able characters as possible during the limited time in order to score as many points as possible.
(possible alternative) I think the winning objective should be to dunk all three characters. The characters should not respawn.

-Game Difficulty Modes: Easy, Medium and Hard.
   -Slider based:
     -Multiple sliders: that players have to align correctly for a dunk-able character to fall.
     -Slower/Faster Sliders: which will make it easier/harder for players to miss the target.
     -Wider/Narrower Sliders/Target Range: Either make the slider or target wider or narrower to determine how precise the slider and the target have to align.
   -Target shooting based:
     -Multiple targets: that players have to align correctly for a dunk-able character to fall.
     -Slower/Faster Sliders: which will make it easier/harder for players to miss the target.
     -Wind factor: the tossable object will deviate a small amount depending on the wind factor.

-Different objects to be thrown: tennis ball, base ball, bowling ball, darts, etc.

-Point value system: +1prof, +1dean, +3trustee, -2miss. (To be determined)

-How long is a refresh cycle? How often does the images refresh?

-What api packages are being used for sound playback? What about fornt, image and animation display?

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-Should projectile disappear on colision?

-Make the slider and projectile smaller

-Remove the cage from the tank?

Scream Variatons:
   -Aaaaarg (dean)
   -Noooooo (trustee)
   -Yooouuu (prof)

-Score Table: announcing the top 10 high score players. And able to type 3 to 5 letters.

-Game tutorial: called "Blackboard" appearing on the start screen.

-When to integrate annoying sounds from "dunkaprof\graphics\flat\soundfx\Annoying Sounds"?
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Game References: These are some flash games of the same game concept that we might draw inspiration and reference material from.

http://boomansion.net/media/flash2/games/dunktank.php
http://www.y8.com/games/Da_Dunk_Tank_Dudes
https://www.turkeyhill.com/fun/dunk-tank-game/dunk-tank-game.aspx