TEXAS TECH UNIVERSITY

Edward E. Whitacre Jr.
College of Engineering™

Computer Science Department
CS 2413 Data Structures
Fall 2019
Mario A. Pitalua Rodriguez, PhD.

CS 2365

Object-Oriented Programming

In the U.S. wild west, the eternal battle between the law and the outlaws keeps heating up. Suddenly, a rain of arrows darken the sky: It's an Indian attack!
Are you bold enough to keep up with the Indians?
Do you have the courage to challenge your fate?
Can you expose and defeat the ruthless gunmen around you?

THE DICES

- By turn each players roll the 5 dices.
- You can reroll two times the dices you do not want to keep.
- Resolve the result of the final roll to finish your turn.
- Remember your character specific exceptions to the rules of the dice.
- Be careful with Arrows and Dynamite.

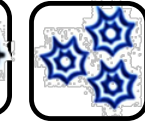Take one arrow before you can reroll

You cannot reroll this dice. With 3 you lose one point of life,
No more rerolls, if any is left in this turn.
Yet, you can resolve other symbols to finish your turn.

You can shot once the next person , to the right or to the left

You can shot once the second person to the right or to the left

If there are only 3 person left, this is the same as Bull's eye
With 3 of these you can, use the Gatling gun to shot everyone once,
and then, dispose of any arrows.

You can or someone you choose recovers one point of life.

No rerolls,
Take two arrows!
Finish your turn!

This is you!

BANG!

BANG!

BANG!

BANG!

Take one arrow,
If you do not want to reroll,
You must shot four times,
Finishing your turn

This is you!

Take one arrow
If you choose to no reroll,
You must shot four times,
Finishing your turn

This is you!

On First Roll - Take one arrow
Reroll Arrow, Bull's eye 1 & 2

This is you!

Use Gatling Gun, Shoot everyone,
Drop your arrows

Take two beers to heal yourself or
someone else

THE CHARACTERS (life points ranges from 7 to 9 bullets)

NAME

LIFE POINTS

SPECIAL ABILITY

BART CASSIDY 8/

SID KETCHUM 8/

LUCKY DUKE 8/

JESSE JONES 9/

ROSE DOOLAN 9/

VULTURE SAM 9/

PAUL REGRET 9/

PEDRO RAMIREZ 8/

CALAMITY JANET 8/

SLAB THE KILLER 8/

SUZY LAFAYETTE 8/

BLACK JACK 8/

EL GRINGO 7/

KIT CARLSON 7/

JOURDONNAIS 7/

THE ROLES

Roles present in game per number of participants.

Each player has a role that define its goal card:

• Sheriff: must eliminate all Outlaws and the Renegade(s);
• Outlaws: must eliminate the Sheriff;
• Deputies: must help and protect the Sheriff;
• Renegade: must be the last character in play.

4 players: 1 Sheriff, 1 Renegade, 2 Outlaws;
5 players: 1 Sheriff, 1 Renegade, 2 Outlaws, 1 Deputy;
6 players: 1 Sheriff, 1 Renegade, 3 Outlaws, 1 Deputy;
7 players: 1 Sheriff, 1 Renegade, 3 Outlaws, 2 Deputies;
8 players: 1 Sheriff, 2 Renegades, 3 Outlaws, 2 Deputies

Let's play!

- The game begins with the Sherriff revealing his role (this player get two additional life points) then rolls the dice
- The outcome is resolve according to the rules to finish its turn.
- After this, the game continues with the next player clockwise.
- The roles of the other participants in the game remain a secret until the moment they are eliminated.
- Every player adjust their strategy as the roles of the eliminated players are reveal.

- Complete rules of BANG! The Dice Game visit http://www.dvgiochi.net/bang_the_dice_game/BANG!_dice_game-rules.pdf

Project

- Model the Game **Bang! Dice Game** using OOP.

- Document your OOAD using Use-Case Diagrams and Class Diagrams.

- Code your Model in Java

- Use JavaDoc for all your classes

- Perform Testing on your Codefor Units and Integration

- Provide a GUI interface

- The implementation should provide the means for a person to play the game against 2 to 7 automated players that play according to their roles and adapt their own strategy as the roles of the other players are revealed upon elimination.

Deliverables

- **Deadline, Wednesday, April 8th, 2020**
- **Pear reviews on Thursday, April 9th, 2020**

- UML Diagrams
  - Use Case Diagrams and their Specifications
  - CDC Cards
  - Class Diagrams
- Documentation
- Working Project