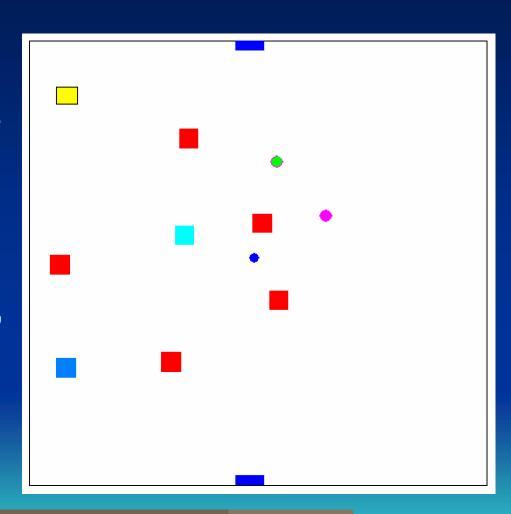# AI Breakout

AI Group1:

Ben
Kai
Gang

Design Application

- User controls the bottom paddle, while the PC controls the top.

- When the ball hits different color bricks, something will happen...

Develop Application

- 2D

- JAVA

  Not so much in Graphics

  Easy to implement

Goal for the Game

- Initial condition: eg. 50 points for both sides – computer and player

- Miss a ball, lose points
  Try to keep as much points as possible until computer lost all points, then you WIN

Rules

- The most interesting part

- Many rules can be added

- Different bricks make different result --
  change of the ball's color & points it represents;
  change of the direction;
  adding one more ball, etc.

AI for Computer

- First level: try not to miss any ball
- Second level: give up the minor important ball – catch the ball with higher points
- Third level: record information of all balls and find a best way of moving sequence to get as many points as possible
- We will see how far our group can make it

AI details

- The AI implement will focus on several aspects :

  The move speed and direction of each ball.

  The move speed and location of paddle

  The length of the paddle

AI details

The events that invoke the AI calculation implement.

Other aspects that should be considered depend on the variation of rules.

- Other applications for other games:

shooting games, racing games

Algorithm

Some algorithms or parts of algorithm which may be used

e.g.

Greedy Algorithm

Alpha beta pruning for trees

A*

Allen Relations

Graphics feature

- Java 2D images

- Specially good effect? – ball effect(show the moving trace); rolling balls; big and small; ……

- Not so much

Project Plan

- Research (week 1-2)
- Design (week 3-4)
- Implement (week 5-8)
- Evaluate (week 9)
- Improvement (week 10)

Aim of the Project

- Everything working functionally (No bugs?)
- Nice looking Graphics (GUI)

Purpose of the Game:

- Promote interest to challenge PC

Expect to learn

- Know more about Game Industry
- Learn about how to implement a game
- AI concept and Graphics in Games
- Become game programmers ?

Question

- Any questions???