

VPB Game Studio (Group 2)

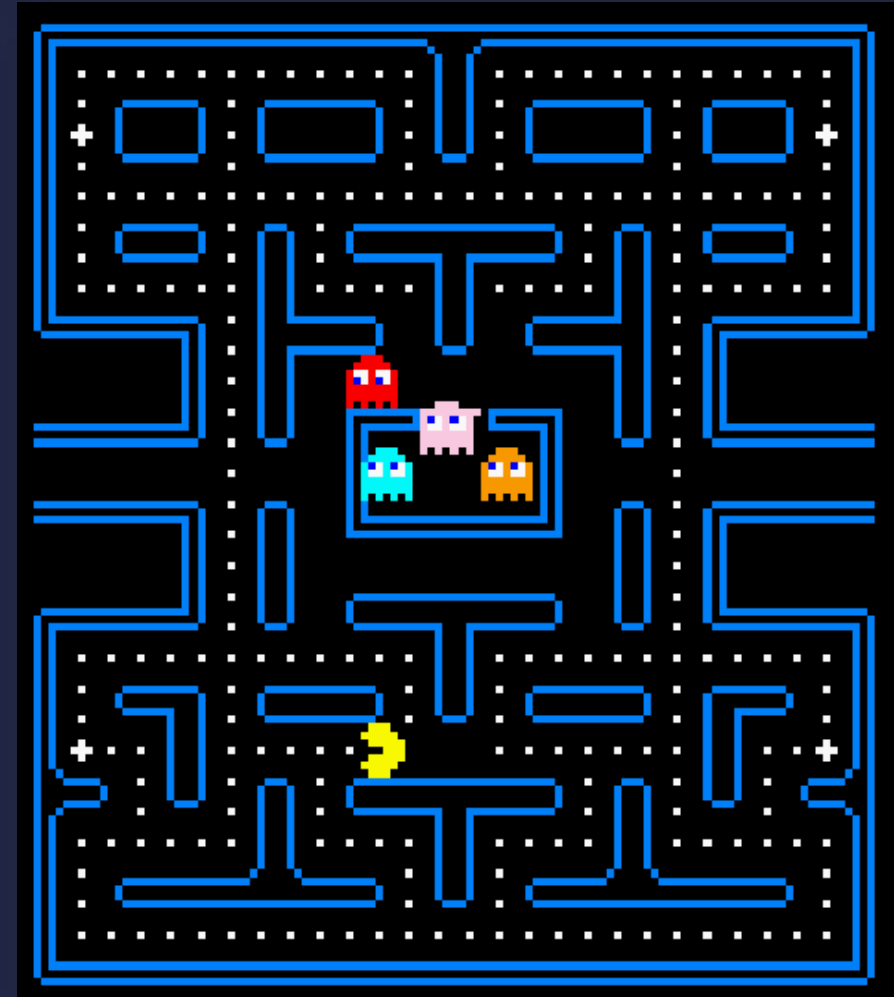
Vatsal Shukla
Prajvin Jalan
Baltej Toor

What is NAMCAP?

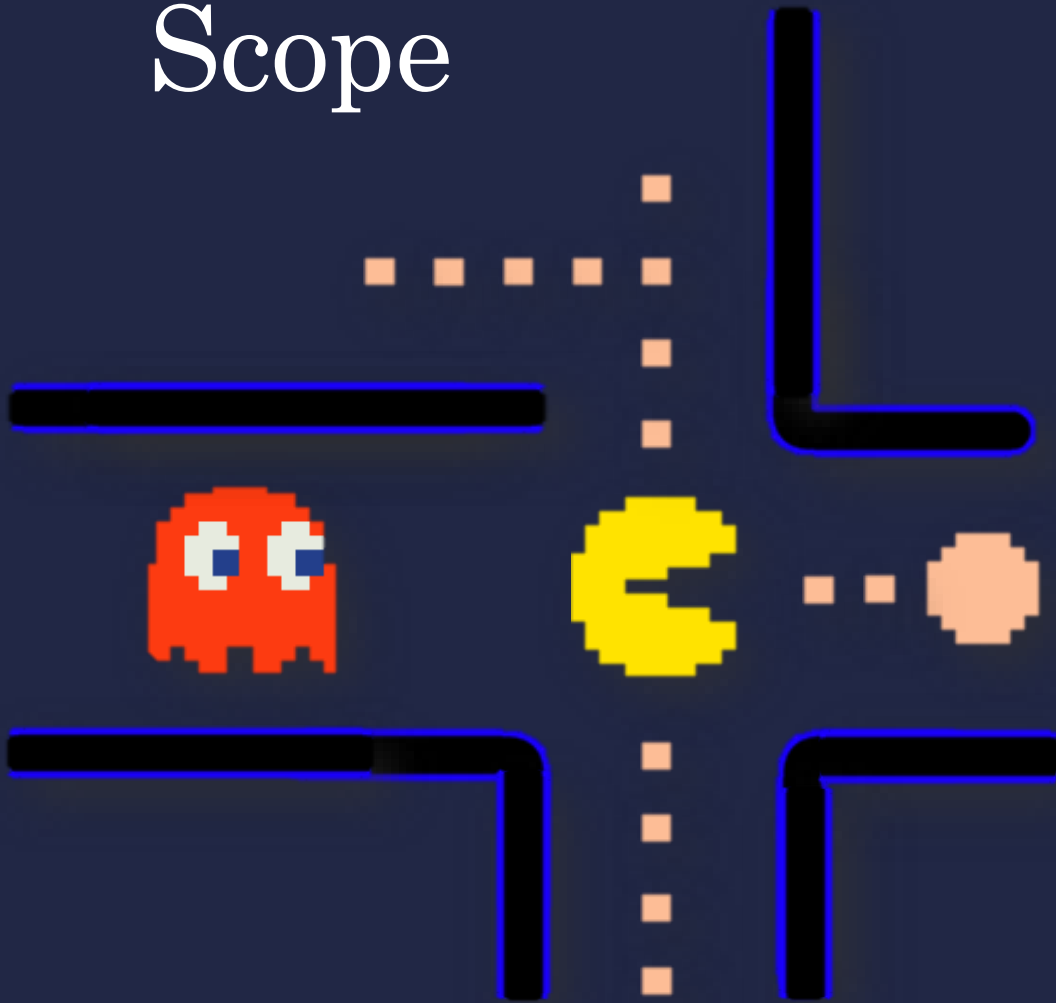
- Redevelopment of the classic-arcade game, Pacman

Purpose:

- Develop a simplistic & approachable arcade-style experience
- Focus on formal development & documentation practices
- Deliver a unique perspective on the arcade classic



Scope



- Implement all core game mechanics
 - Movement
 - Collision
 - Enemy AI
 - Dot & Big Dot
 - Scoring
- Aim to improve usability & learnability wherever possible

Development

The VPB Approach:

- **Iterative & Traceable Design:** Consistent parallel updates to implementation and documentation
- **Constant Communication:** Daily notifications + weekly formalized meetings
- **User-Focused:** Stay true to source material; focus on usability + playability



Technologies

- Java
 - Object-oriented development; following Google Java Standards
- Swing + AWT
 - Graphics libraries used to redevelop the classic-arcade UI
- JUnit
 - Testing suite used for both mechanics & scenario automated testing

Usability

- Google Forms for Usability Survey
- Assesses system usability (also learnability)
- 90% of users gave the game 9/10 (and above) for interface user-friendliness

Difficulty:

- 30% of users gave 5/10
- 30% of users gave < 5/10
- 40% of users gave > 5/10

Usability Survey Questions

Please complete the following survey as you play through the game. The first section covers usability of the application and your thoughts on the game in terms of general entertainment. The second section helps us test our game to ensure we can provide a stable application for the public.

Playability

Entertainment: 0 1 2 3 4 5 6 7 8 9 10
[where 10 is most entertaining]

Interface: 0 1 2 3 4 5 6 7 8 9 10
[where 10 is most user-friendly]

Game Difficulty: 0 1 2 3 4 5 6 7 8 9 10
[where 10 is most difficult]

User Testing

Does the instructions page look identical to that of the original Pacman? Yes No

Does the game interface look identical to that of the original Pacman? Yes No

Does the instructions page clearly define the objective of Namcap? Yes No

Are you able to fully grasp the overall gameplay after one playthrough (3 lives)? Yes No

Do you notice any offensive symbols or text in any part of the game? Yes No

How many times did the game unexpectedly crash? 0 1 2 3+

Were there instances where your key presses had a response delay of more than 1 second? 0 1 2 3+

Learnability

- Usability Survey used to assess learnability as well

100% of users surveyed responded:

- Instructions page clearly defines the objective of Namcap
- Able to fully grasp the overall gameplay after one play-through

Maintainability & Portability

- Generic design allows for efficient implementation of future features
- Developed character & object (dot, big dot) infrastructure
- Game runs on any laptop with the JRE installed
 - Runs on Windows & Mac/Linux

Demo

Project Retrospective

- Namcap was successful in recapturing that classic arcade experience while providing a new, unique perspective on Pacman
- Efficient development was achieved through constant communication and iterative design & documentation updates

Future Development:

- In-game audio
- Additional Power-ups & Levels