

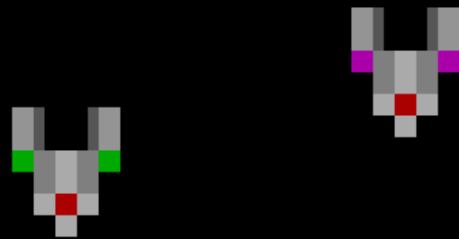
ANTS!

Alien Attack!

# The plot

The year is 2138.

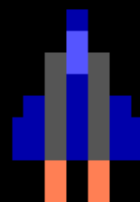
# The plot thickens



Planet Earth is under attack by  
aliens, and they're antsy!

# More 80s game tropes

You're a mercenary with a state of  
the art space fighter and a gun for  
hire.



# Game mechanics

- Earn money for each alien destroyed
- Financial penalties for aliens that escape
- Efficient use of lasers is rewarded
- Collect power-ups to enhance your ship
- Kill! Slay! Destroy! Annihilate!

# Raiden?

Maybe? Lets see how we got on...

**Danmaku** { 弹幕 }

# The game engine

- Hardware interrupt trap for the game loop
  - Via a subshell
- 256 colour ANSI frame buffer
  - Fast delta updates via a pseudo 'blitter'
- ANSI sprite engine
  - Collision detection & overlays
  - Animators, keyframing and colour-cycles
- Multi-threaded sound effects
  - Including sound effect chaining
- XBOX 360 and Steam Controller support
  - Simultaneous 2-player action!
- Stateful configuration



# Learnings

- `case` two times faster than `if elif else fi`
- ANSI is harder than you think
- `echo -e > tput > printf`
- Arithmetic comparisons are fast
  - `if ((THING == 1)); then` is faster than
  - `if [ ${THING} -eq 1]; then`
- Bash has C style loops
  - `for ((LOOP=0; LOOP < TOTAL; LOOP++)); do`
- I never knew `((TOTAL++))` was a thing
  - Or `((TOTAL+=5))` or `((TOTAL+=MORE))`
- Px437 IBM UGA Regular is best font!

# The code



<https://wimpysworld.io/antsy-alien-attack>

# Thank you!

