



Advanced System Software

“The Game” by Team Name



Introduction Team

Meet Our Members!

About Us

The Amazing Crew

- Aoukar Tarek – Software engineer (Web), UI design
- Kyrylchuk Oleksi – Project manager, Software engineer (State machine, web requests)
- Wang Biyuan – Software engineer (State machine, Wi-Fi connection)
- Xu Ruopeng – Art director, Software engineer (Name generation)

Our Mission

To Bring Happiness to Gamers around the World

Team Name

- A legendary dev team
- A French guest advisor
- Experienced lead artist
- “The Button Guy”
- State-of-the-art state machine engineer
- Pro Project Manager

The Game

- An immersive experience
- Tried and true format
- Characters you know and love
- An unforgettable experience
- Easy to play and portable
- Easy to learn but offers a challenge

Our Product

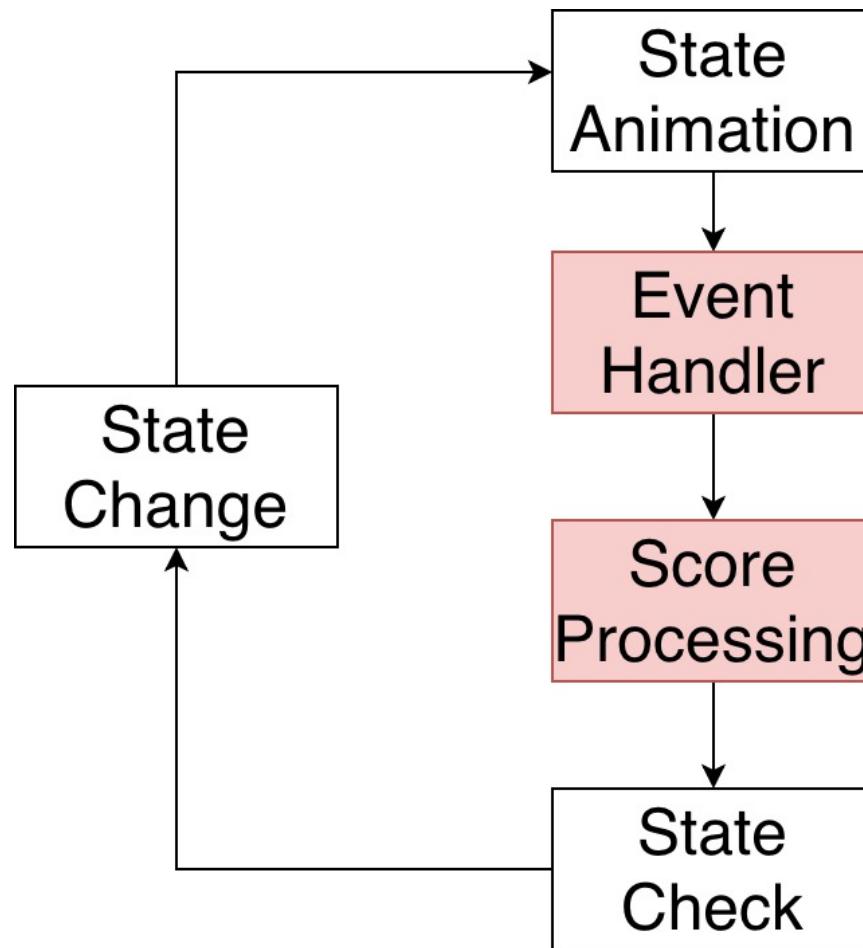
The game that will bring a smile to your face

- Help Spoody survive!
- You can 🍜 😁 😴 to keep Spoody alive
- 💥 or ❄️ = 💀
- Online leaderboard!



Technical details

Simplified workflow



- Event Handler
 - Activity events: Eating, playing and sleeping
 - Final score submission
 - Reset game after game over
- Score Processing
 - Score calculation for each activity
 - Temperature affect
 - Name shuffle at the end of the game

Technical details

Implementations

- Three threads
 - updateScore (periodic): Checks the current state and update the total score.
 - processEvent (aperiodic): Checks button press, calculate the score and call the animation functions.
 - animationIdle (periodic): Checks whether the game is over and shows corresponding animations.
- Update UI every 500 ms
 - flickering problem when updating full screen
 - Solved by partial updates and rewrites
- Display of messages
 - Temperature
 - Message box
 - Total score
 - Button states
 - Activity status percentage

Technical details

Creativity I

- Five different animations
 - Sleeping
 - Eating
 - Playing
 - Normal state
 - Game over
- Solve the memory problem:
 - Use pixel pictures (128x128)
 - Use two images which show alternately for animations



Technical details

Creativity II

- Shuffled name for users
 - Based on a random number generator
 - Has 100 combinations
 - Interesting names
- Uploaded to an online leaderboard
 - WIFI connection
 - Local host



HIGH SCORES	
name	score
Clever Mushroom	27
Noisy Kiwi	54
Clever Peach	75

Technical details

Vingt mille lieues sous les mers

- Technical issues
 - Regarding memory management: too many threads with large stack allocation
 - No debugging feature, solved with debug messages and trial/error to discover multi threading bugs
 - Multiple threads accessing LCD memory solved by unifying threads and accessing LCD from a single thread
 - Threads not working after beating the game solved by deleting and recreating the threads

Demo





Thank You.
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