

# Rogue Signal Protocol - Traditional Roguelike Design Document v4.0

## Network Dungeon Crawler with Advanced Stealth

### Executive Summary

**Rogue Signal Protocol** is a stealth-focused traditional roguelike where you play as a hacker's consciousness trapped in cyberspace. Navigate procedurally generated network dungeons using stealth, observation, and tactical combat. Each "floor" is a network system, each "room" is a subnet, and each "monster" is a security process with distinct patrol patterns and vision cones. Master enemy movement patterns, hide in shadows, and strike from stealth - or face the terrifying Admin Avatar hunting you through the network.

### Core Gameplay Loop

#### Stealth-First Roguelike Structure

- **Movement:** Grid-based, 8-directional movement (FREE and SILENT)
- **Stealth:** Observe patrol patterns, avoid vision cones, hide in shadows
- **Combat:** Bump-to-attack OR stealth attacks for bonus damage
- **Time:** Turn-based, everything moves when you do
- **Death:** Permanent, start over from Network 1
- **Progression:** Find better exploits, upgrade stealth gear, descend deeper

### The Network as Stealth Dungeon

#### Traditional Roguelike → Rogue Signal Protocol Translation

Traditional Roguelike	Rogue Signal Protocol
Dungeon Floor	Network System
Room	Subnet
Corridor	Network Cable/Connection
Monster	Security Process (with vision/patrol)
Treasure	Exploit/Data (often guarded)
Stairs Down	Gateway Router (heavily guarded)
Potion	Integrity Repair
Scroll	One-Use Exploit
Weapon	Persistent Attack Exploit
Armor	Stealth Enhancement/Defense
Food/Hunger	CPU Cycles (Action Economy)
Light/Dark	Network Traffic/Shadow Zones



## Stealth System

### Vision and Detection

#### Enemy Vision Mechanics:

- Each enemy has a circular vision range (3-8 squares radius)
- Enemies see in all directions (360° vision)
- Walls and obstacles block line of sight
- Moving enemies scan while patrolling routes
- Static enemies have constant vision coverage

#### Vision Range Display:

. = Empty space   @ = You (hidden)  
 E = Enemy   ! = You (spotted)  
 = Vision area   # = Wall/Obstacle  
 = Blocked vision   ◇ = Shadow zone

#### Example Vision Range:



## Shadow and Hiding System

### Shadow Zones (Stealth Bonus):

- ◇ = Server shadows (-50% detection chance)
- ▣ = Dense traffic (-25% detection chance)
- ⚡ = Power conduits (-75% detection chance, rare)
- 🗄 = Data clusters (+25% stealth attack damage)

### Hiding Mechanics:

- Standing in shadows: -50% detection chance
- Standing behind walls: Complete vision blocking
- Standing in enemy's blind spot: -75% detection
- Moving through shadows: No detection penalty
- Moving through light while observed: +100% detection

### Stealth States:

- 🔍 **HIDDEN**: Enemy doesn't know you exist
- 👁 **SPOTTED**: Enemy sees you this turn
- 🚨 **ALERTED**: Enemy investigating your last position
- ⚠ **HUNTING**: Enemy actively pursuing you

## Enemy Behavior and Patrol Patterns

### Patrol Types:

#### Linear Patrol (L):

- Route:  $A \rightarrow B \rightarrow A \rightarrow B$
- Behavior: Predictable, easy to time
- Examples: Basic scanners, log processes

### **Circular Patrol (C):**

- Route:  $A \rightarrow B \rightarrow C \rightarrow D \rightarrow A$
- Behavior: Moderate timing challenge
- Examples: IDS monitors, security daemons

### **Random Walk (R):**

- Route: Unpredictable movement
- Behavior: Hard to predict, requires patience
- Examples: Spam bots, corrupted processes

### **Static Guard (S):**

- Route: No movement, constant 360° vision
- Behavior: Guards doorways and treasures
- Examples: Firewalls, admin terminals

### **Hunter Patrol (H):**

- Route: Seeks last known player position
- Behavior: Investigates disturbances
- Examples: Antivirus, hunter-killers

## **Grid-Based Network Layout**

### **Network Generation with Stealth Elements**

Each network is a 70x70 grid optimized for stealth gameplay.

### **Movement & Stealth Controls**

#### **Stealth Movement:**

- **Wait (Space):** Watch enemy patterns, no movement
- **Sneak (Shift+Move):** Move at half speed but -75% detection
- **Shadow Step (S):** Teleport between shadow zones (exploit)
- **Distraction (D):** Throw data packet to redirect attention

#### **Stealth Attacks:**

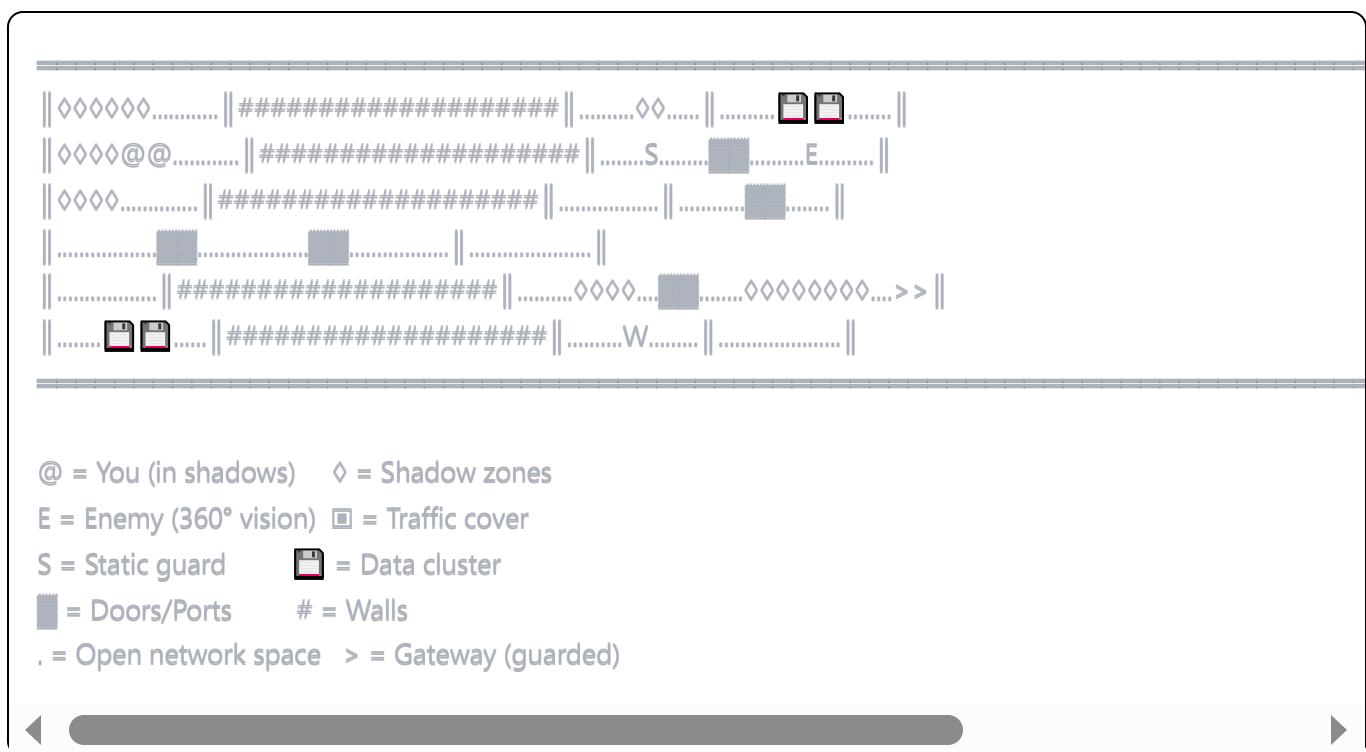
- **Stealth Strike:** Attack unaware enemies for 2x damage + silence

- **Stealth Kill:** Instant kill on unaware enemies (requires stealth exploit)
- **Sabotage:** Disable enemy without killing (no detection increase)
- **Data Siphon:** Steal CPU/loot from sleeping processes

#### Observation:

- **Study (Tab):** Reveals enemy patrol route and timing
- **Scan Vision (V):** Shows all enemy vision ranges for 1 turn
- **Predict Path (P):** Shows where enemies will be in 3 turns
- **Mark Target (M):** Permanently shows one enemy's vision range

#### Example Stealth-Focused Network Layout:



#### Controls

- **Arrow keys/WASD/Numpad:** Normal movement (FREE, may be detected)
- **Shift + Movement:** Sneak (FREE, -75% detection chance)
- **Space/5:** Wait and observe (FREE, study enemy patterns)
- **Tab:** Study nearest enemy (reveals full patrol route)
- **V:** Show all vision cones for 1 turn (costs 10 CPU)
- **S:** Shadow Step between shadow zones (stealth exploit)
- **I:** Quick-swap exploits between loaded/stored
- **M:** Mark enemy to permanently show vision cone (costs 15 CPU)

# Enemy Types with Vision and Patrol Data

## Level 1 Enemies (DMZ Network)

### Ping Scanner (p):

- HP: 20 | Damage: 5 | CPU Reward: 30
- Vision: 3 squares radius, 360° coverage
- Patrol: Linear (A→B→A, 8 turns per cycle)
- Behavior: Basic patrol, predictable timing
- Stealth Notes: Easy to avoid, time movement between positions
- Detection: +3% when killed, +1% when alerted

### Spam Bot (s):

- HP: 10 | Damage: 3 | CPU Reward: 20
- Vision: 2 squares radius, 360° coverage
- Patrol: Random walk (changes direction every 3-5 turns)
- Behavior: Unpredictable movement, frequent direction changes
- Stealth Notes: Hard to predict, requires patience
- Detection: +2% when killed, +1% when spotted

### Log Process (l):

- HP: 30 | Damage: 2 | CPU Reward: 40
- Vision: 4 squares radius, 360° coverage
- Patrol: Static guard (no movement)
- Behavior: Monitors fixed position, excellent vision range
- Stealth Notes: Can be avoided with careful positioning
- Detection: +5% when killed, +3% when it spots you

## Level 2 Enemies (Corporate Network)

### Firewall Daemon (F):

- HP: 50 | Damage: 8 | CPU Reward: 60
- Vision: 3 squares radius, 360° coverage
- Patrol: Static guard (no movement)

- Behavior: Guards doorways and treasures
- Stealth Notes: Must be disabled or bypassed, constant coverage
- Special: Reduces damage by 50%, requires special tactics
- Detection: +8% when killed, +5% when approached

### **Antivirus (A):**

- HP: 40 | Damage: 10 | CPU Reward: 50
- Vision: 4 squares radius, 360° coverage
- Patrol: Hunter (seeks disturbances)
- Behavior: Investigates last known player position
- Stealth Notes: Will hunt you if spotted, difficult to lose
- Special: Can disable one exploit, calls backup if you escape
- Detection: +6% when killed, +10% if it hunts you

### **IDS Monitor (I):**

- HP: 35 | Damage: 5 | CPU Reward: 45
- Vision: 5 squares radius, 360° coverage (excellent range)
- Patrol: Circular (complex route, 12 turns per cycle)
- Behavior: Professional patrol pattern
- Stealth Notes: Large vision range, requires careful timing
- Special: Summons backup when hurt, increases detection
- Detection: +10% when killed, +15% when it calls backup

## **Level 3+ Enemies (Deeper Networks)**

### **Hunter-Killer (H):**

- HP: 60 | Damage: 15 | CPU Reward: 80
- Vision: 6 squares radius, 360° coverage (massive range)
- Patrol: Aggressive hunter (moves toward last disturbance)
- Behavior: Relentless pursuit, moves twice per turn
- Stealth Notes: Extremely dangerous if spotted, avoid at all costs
- Special: Tracks footprints for 5 turns, immune to distractions
- Detection: +12% when killed, +20% when it starts hunting

### **SIEM Correlator (S):**

- HP: 45 | Damage: 8 | CPU Reward: 70
- Vision: 4 squares radius, 360° coverage
- Patrol: Static guard (no movement)
- Behavior: Central room guardian, enhances other enemies
- Stealth Notes: Must be carefully avoided or disabled
- Special: All enemies in room get +5 damage and +1 vision range
- Detection: +15% when killed, enables other enemies to see further

### **Admin Avatar (BOSS):**

- HP: 200 | Damage: 30 | CPU Reward: 150
- Vision: 8 squares radius, 360° coverage (sees everything)
- Patrol: Intelligent hunting (pathfinds toward player)
- Behavior: Only spawns at 100% detection, hunts relentlessly
- Stealth Notes: Cannot be hidden from, must reach exit while evading
- Special: Sees through stealth, summons reinforcements, deletes exploits
- Detection: Only spawns at 100% detection level

### **Honeypot (h):**

- HP: 20 | Damage: 0 | CPU Reward: 100
- Vision: 0 squares (appears as treasure)
- Patrol: Static (disguised as loot)
- Behavior: Pretends to be valuable data
- Stealth Notes: Can be identified with scan exploits
- Special: +30% detection if killed, but reveals hidden areas
- Detection: +30% when killed (major spike but rewards exploration)

## **Special Abilities (Exploits) - Stealth Enhanced**

### **Exploit System**

- **Number Keys 1-9:** Activate loaded exploits
- **RAM Limitation:** Can only load 12 GB worth at once
- **Heat System:** Powerful exploits generate heat instead of cooldowns



- **Quick Swap:** Press 'I' to instantly swap loaded/stored exploits
- **Stealth Synergy:** Many exploits have stealth bonuses

## **Stealth Exploits (New Category)**

### **Rootkit (1):**

- RAM: 2 GB
- Heat Generated: +25°C
- Effect: Invisible for 10 turns, immune to vision detection
- Stealth: Can move through enemies, backstab bonus +100%
- Heat: Breaks if you attack or use loud exploits
- Synergy: Move while rooted to cool down faster

### **Shadow Step (2):**

- RAM: 2 GB
- Heat Generated: +20°C
- Range: Any shadow zone within 8 squares
- Effect: Teleport between shadow zones silently
- Stealth: No detection chance, can escape pursuit
- Heat: Moderate cost for positioning advantage

### **Data Mimic (3):**

- RAM: 1 GB
- Heat Generated: +15°C
- Effect: Appear as harmless data packet for 5 turns
- Stealth: Enemies ignore you completely unless bumped
- Heat: Low cost disguise for crossing danger zones

### **Noise Maker (4):**

- RAM: 1 GB
- Heat Generated: +10°C
- Range: 6 squares
- Effect: Create distraction sound at target location

- Stealth: Redirects enemy attention, no detection increase
- Heat: Essential tool for creating openings

### **Ghost Protocol (5):**

- RAM: 3 GB
- Heat Generated: +35°C
- Effect: Phase through walls for 3 turns
- Stealth: Access secret areas, escape when cornered
- Heat: High cost emergency escape

### **Combat Exploits (Stealth Enhanced)**

#### **Buffer Overflow (6):**

- RAM: 2 GB
- Heat Generated: +20°C (+10°C if used from stealth)
- CPU Cost (Optional): 15 to Overclock for 2x damage
- Range: Adjacent
- Effect: 50 damage + (Access\_Level \* 10), armor piercing
- Stealth: 2x damage if enemy unaware, silent kill if enemy  $\leq 50$  HP

#### **SQL Injection (7):**

- RAM: 1 GB
- Heat Generated: +15°C (silent attack)
- Range: 3 squares
- Effect: 35 damage + (Access\_Level \* 5), bypasses firewalls
- Stealth: No detection increase if used from stealth
- Heat: Perfect for stealth runs

#### **Stealth Kill (8):**

- RAM: 2 GB
- Heat Generated: +30°C
- Range: Adjacent (must be unaware enemy)
- Effect: Instant kill on unaware enemies  $\leq 75$  HP
- Stealth: Must be used on unaware enemies, completely silent

- Heat: High-risk, high-reward stealth option

### **EMP Burst (9):**

- RAM: 3 GB
- Heat Generated: +40°C
- Range: Radius 2
- Effect: Disables all enemies for 5 turns (no damage)
- Stealth: Perfect for escaping without killing
- Heat: Non-lethal crowd control

### **Utility Exploits (Observation Enhanced)**

#### **Port Scanner (Q):**

- RAM: 1 GB
- Heat Generated: +10°C (minimal)
- CPU Cost (Optional): 10 for Deep Scan (shows patrol routes)
- Effect: Reveals subnet layout, enemy positions, and vision cones
- Stealth: Essential for planning stealth routes

#### **Packet Sniffer (W):**

- RAM: 1 GB
- Heat Generated: +5°C
- Effect: See enemy vision cones permanently for current subnet
- Stealth: Critical intel for stealth gameplay
- Heat: Low cost information gathering

#### **Security Cam Hack (E):**

- RAM: 2 GB
- Heat Generated: +20°C
- Effect: Control one enemy's movement for 5 turns
- Stealth: Make enemies face away or move out of position
- Heat: Tactical manipulation tool

#### **Log Wiper (R):**

- RAM: 1 GB
- Heat Generated: +5°C (very low)
- Effect: -20% detection level, clears footprints
- Stealth: Essential for maintaining low detection
- Heat: Use freely without overheating

## Resources & Stealth Integration

### Detection System - Network Security Pressure

**DETECTION:**  **23% / 100%**

Detection is the "hunger" system - it slowly increases over time, creating pressure to keep moving forward and manage your presence carefully.

#### Passive Detection Increase (Background Pressure):

- Network 1: +1% every 15 turns (forgiving tutorial pace)
- Network 2: +1% every 12 turns (building pressure)
- Network 3: +1% every 10 turns (standard pressure)
- Network 4: +1% every 8 turns (high pressure)
- Network 5: +1% every 5 turns (extreme pressure)

#### Special Area Modifiers:

- Server Rooms: +1% every 20 turns (safer, cooled systems)
- Admin Areas: +2% every 10 turns (heavily monitored)
- Honeypot Zones: +3% every 10 turns (active traps)
- Hot Zones: +1% every 5 turns (overclocked, unstable)
- Safe Rooms: No passive increase (rare sanctuary areas)

#### Active Detection Sources:

- Enter enemy vision: +5% per turn observed
- Kill enemy: +2% to +15% depending on type
- Use loud exploits: +10% to +25%
- Enter new subnet: +5%
- Set off alarms: +20%

- Failed stealth attempt: +10%
- Trigger honeypot: +30%

### **Detection Reduction (Precious Resources):**

- Log Wiper exploit: -20% detection
- Complete subnet undetected: -15% detection
- Find admin credentials: -15% detection
- Use only stealth kills in subnet: -10% detection
- Data Cleansers (items): -10% to -35% detection

### **Detection Effects:**

- 0-25%: 🤫 "QUIET" - Normal enemy behavior, optimal stealth conditions
- 26-50%: 👁 "AWARE" - Enemies move 25% faster, +1 vision range, +50% background rate
- 51-75%: 🔍 "SEARCHING" - Hunter-killers spawn every 25 turns, +100% background rate
- 76-99%: 🚨 "HIGH ALERT" - All enemies hunt mode, backup spawns, +200% background rate
- 100%: 🧑‍💻 "ADMIN SUMMONED" - Admin Avatar spawns and hunts relentlessly!

### **Admin Avatar Encounter:**

- Spawns when detection hits 100%
- Cannot be killed in normal combat
- Has massive vision (8 squares, 180° cone)
- Immune to stealth, sees through all disguises
- Goal becomes: Reach the exit while evading
- Background detection increase stops while Avatar active
- Detection slowly decreases over time (-1% per turn while being chased)
- If detection drops below 70%, Admin Avatar despawns
- Creates "escape the hunter" gameplay rather than death

## **Stealth UI Elements - Context-Sensitive Display**

### **Proximity-Based Information:**

- 👁 **ENEMY VISION:** Only shows when within 6 squares of enemies
- ◇ **SHADOWS:** Only visible when adjacent or inside shadow zones

- ❄️ **COOLING**: Only shows when within 3 squares of cooling sources
- 💎 **ITEMS**: Only displays when within pickup range

### Status Indicators (Always Visible):

- 🧑 **HIDDEN**: You're in shadows or concealed
- 🎯 **STEALTH STRIKE**: Enemy unaware, can attack for bonus damage
- 👁️ **SPOTTED**: Enemy can see you this turn
- 🚨 **ALERTED**: Enemy investigating your area

### Smart Warnings (Context-Triggered):

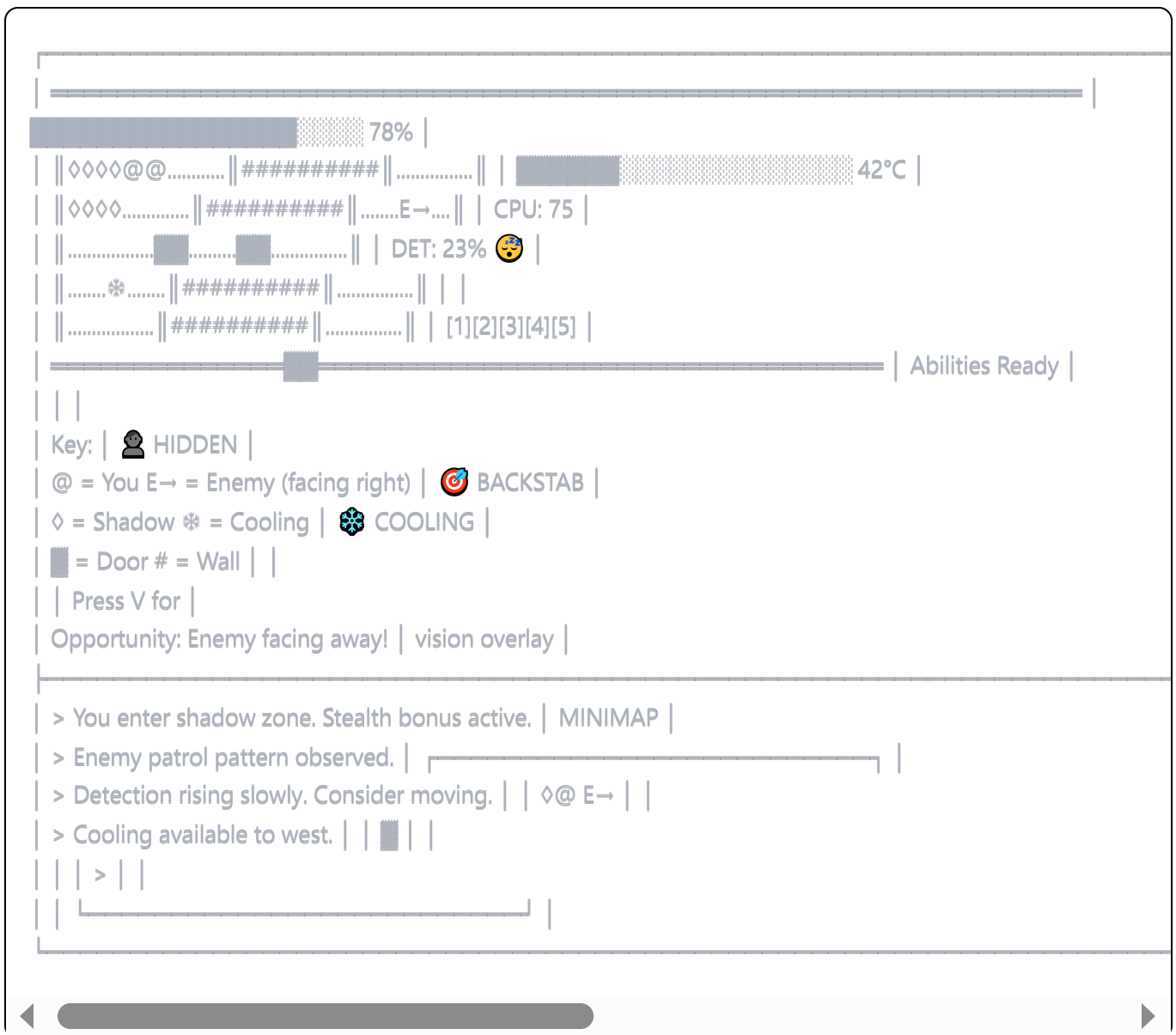
- ⚠️ **OVERHEATING**: Only when heat >75°C
- 🔴 **DETECTION SPIKE**: Only when detection rises >5% in one turn
- 🚶 **PRESSURE**: Only when background detection building for 5+ turns
- 💡 **OPPORTUNITY**: Only when stealth advantage appears

### Vision Overlay (V Key - Temporary):

- Shows all enemy vision ranges as circular areas
- Displays patrol prediction for next 3 turns
- Highlights safe movement paths
- Auto-hides after 5 seconds or key press

## Simplified UI Layout

### Main Game Screen - Clean Information Hierarchy










## Vision Overlay (V Key) - Temporary Full Information



Smart Contextual Warnings

Context-Sensitive Alerts (Only When Relevant):

-  **DETECTION SPIKE:** When detection increases >5% in one turn
-  **OVERHEATING:** When heat >75°C
-  **OPPORTUNITY:** When backstab chance appears
-  **SPOTTED:** When enemy sees you
-  **COOLING:** When cooling source nearby
-  **CLEANSER:** When detection reducer found
-  **PRESSURE:** When background detection building up

Simplified Visual Language



## Color-Coded Information Priority

**RED** = Immediate Danger

- Overheating warnings
- Enemy vision when you're exposed
- Critical detection spikes

**YELLOW** = Caution/Attention

- Rising heat levels
- Background detection increases
- Patrol warnings

**GREEN** = Opportunity/Safety

- Shadow zones
- Cooling sources
- Stealth opportunities
- Safe movement paths



**BLUE** = Resources/Tools

- CPU pickups
- Exploits ready
- Cleansers available

**GRAY** = Neutral/Environmental


- Walls, floors, basic terrain
- Inactive elements

## Core Symbols (Always Visible):

- @ = Player
- E = Enemy (with facing arrow ←↑→↓)
- ◇ = Shadow (only when adjacent)
- = **Wall**
-  = Door/Port
-  = Exit

- ❄ = Cooling (only when nearby)

### Overlay Symbols (Only in vision mode):

-  = Vision cone area
- → = Patrol direction
- ? = Unknown/unexplored
- ! = Threat indicator
- ★ = Opportunity marker

## Network Progression (Stealth-Focused)

### Network 1: DMZ (Stealth Tutorial)

- **Size:** 70x70
- **Enemies:** 8-12 with simple patrol patterns
- **Shadow Coverage:** 40% (generous for learning)
- **Tutorial Elements:**
  - Introduction to vision cones and patrol timing
  - Safe shadow zones for practice
  - Simple linear patrols to master
- **Stealth Challenges:** None (learning environment)
- **Gateway:** Lightly guarded, teaches doorway bypass

### Network 2: Corporate Intranet (Stealth Intermediate)

- **Size:** 70x70
- **Enemies:** 12-16 with mixed patrol types
- **Shadow Coverage:** 30% (more strategic placement)
- **Stealth Challenges:**
  - Circular patrols requiring timing
  - First firewall bypass challenges
  - Multiple enemy coordination
- **Special:** Introduces hunting behavior when spotted

### Network 3: Data Center (Stealth Advanced)

- **Size:** 70x70
- **Enemies:** 16-20 with complex behaviors
- **Shadow Coverage:** 25% (must be earned)
- **Stealth Challenges:**
  - Overlapping vision cones
  - Hunter-killers that track movement
  - Treasure rooms requiring perfect stealth
- **Special:** First Admin Avatar warning at 85% detection

#### **Network 4: Government System (Stealth Expert)**

- **Size:** 70x70
- **Enemies:** 20-25 with professional patterns
- **Shadow Coverage:** 20% (expert level)
- **Stealth Challenges:**
  - Synchronized patrols blocking all routes
  - SIEM correlators enhancing group vision
  - Air-gapped sections requiring ghost protocol
- **Special:** Admin Avatar threshold lowered to 75%

#### **Network 5: Internet Backbone (Stealth Mastery)**

- **Size:** 70x70
- **Enemies:** 15 elite enemies with perfect coverage
- **Shadow Coverage:** 15% (minimal)
- **Stealth Challenges:**
  - Near-perfect enemy coverage
  - Corrupted processes with erratic patterns
  - Time pressure from integrity drain
- **Special:** Admin Avatar spawns at 50% detection
- **Goal:** Reach recovery server while evading the Admin Avatar

### **UI Design Philosophy - Progressive Disclosure**

**Core Principle: Show Only What You Need, When You Need It**

The game uses progressive disclosure and context-sensitive information to prevent UI overwhelming. Information appears based on player actions and proximity, with clear visual hierarchy.

## **Information Layers (Toggleable)**

**Layer 1 - ALWAYS VISIBLE (Essential Info):** Core resources, enemy positions, basic terrain

**Layer 2 - PROXIMITY BASED (Auto-Show):**

- Enemy vision cones (only when within 6 squares)
- Shadow zones (only when adjacent or inside)
- Interactive objects (when within 3 squares)

**Layer 3 - ON-DEMAND (Player Activated):**

- Full vision display (V key - temporary overlay)
- Patrol routes (Tab key on specific enemy)
- Threat analysis (Shift+Tab - danger assessment)

**Layer 4 - CONTEXTUAL (Situation Based):**

- Detection warnings (only when rising quickly)
- Heat warnings (only above 50°C)
- Stealth opportunities (only when enemy vulnerable)

## **Progressive Tutorial Integration**

### **Information Introduction Sequence**

**Network 1 Tutorial Progression:**

**Turn 1-10: Basic movement and terrain**

- Show only: Player, walls, basic movement
- Message: "Move with arrow keys. Find the exit >"

**Turn 11-20: Enemy introduction**

- Show: First enemy, basic vision indication
- Message: "Enemies can see you. Avoid their gaze."

**Turn 21-30: Shadow system**

- Show: Shadow zones when approached
- Message: "◇ symbols are shadows. Hide here for safety."

### **Turn 31-40: Detection concept**

- Show: Detection meter, basic warnings
- Message: "Detection rises over time. Keep moving."

### **Turn 41+: Advanced features unlocked progressively**

- Vision overlay (V key)
- Study system (Tab key)
- Exploit system

## **Smart Defaults and Auto-Hide**

### **Default UI State (Minimal):**

- Core resources visible
- Current subnet layout
- Immediate threats only
- Context-sensitive warnings

### **Auto-Hide System:**

- Vision cones disappear when not relevant
- Patrol routes hide after being learned
- Warnings auto-dismiss after acknowledgment
- Advanced info tucked behind hotkeys

### **Player Preference Memory:**

- Remembers which overlays you use most
- Suggests relevant information based on playstyle
- Adapts warning thresholds to your skill level

## **Advanced Stealth Mechanics**