Casino Royal Aviator - Technical Implementation Document

#### \*\*1. Project Overview\*\*

\*\*Name\*\*: Casino Royal Aviator

\*\*Core Features\*\*:

- 20 modern slot games + Aviator crash game

- Phone/password login + email/phone/password registration

- Auto-withdrawal system via NOWPayments

- Crypto deposits → USD balances

- $20 non-withdrawable demo credits

- Dual dashboards (user/admin)

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#### \*\*2. System Architecture\*\*

\*\*Tech Stack\*\*:

- \*\*Frontend\*\*: React.js + TypeScript, Three.js/Slots, Pixi.js/Aviator, Tailwind CSS

- \*\*Backend\*\*: Node.js/Express, PostgreSQL (User Data), Redis (Sessions)

- \*\*Blockchain\*\*: NOWPayments API + Webhook System

- \*\*Infrastructure\*\*: AWS ECS, S3 (Asset Storage), Cloudflare

\*\*Auto-Withdrawal Flow\*\*:

```mermaid

sequenceDiagram

User->>Backend: Withdrawal Request (USD Amount)

Backend->>NOWPayments: Convert USD → Crypto (Real-time Rate)

NOWPayments-->>Backend: Transaction ID

Backend->>Crypto Network: Auto-Transfer (User's Wallet)

Backend->>User: SMS/Email Confirmation

```

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#### \*\*3. Core Feature Specifications\*\*

\*\*A. Authentication\*\*

- \*\*Sign Up\*\*:

```json

{

"email": "user@domain.com",

"phone": "+1234567890",

"password": "\*\*\*\*\*\*" // bcrypt hashed

}

```

- \*\*Sign In\*\*: Phone + password (JWT token generation)

\*\*B. Game Engine\*\*

| Component | Technology | Key Features |

|--------------------|------------------|----------------------------------------------|

| Slot Games (20) | Phaser 3 | RNG certified (iTech Labs), Free spins, Bonus rounds |

| Aviator Crash | WebSocket + Canvas | Provably fair (SHA-256), Auto-cashout option |

| Demo System | Virtual Balance | $20 non-withdrawable, Higher RTP (98-99%) |

\*\*C. Payment System\*\*

- \*\*Deposits\*\*:

1. User selects crypto (BTC/ETH/USDT/etc.)

2. NOWPayments generates deposit address

3. Auto-conversion to USD at receipt

- \*\*Auto-Withdrawal\*\*:

- Threshold: Min $20 withdrawal

- Processing: < 15 mins (blockchain permitting)

- Fees: Network gas + 0.5% platform fee

\*\*D. Dashboard System\*\*

\*\*User Dashboard\*\*:

- Real/Demo balance display

- Deposit/Withdrawal history

- Game statistics (RTP, win rates)

- Auto-withdraw setup (wallet whitelisting)

\*\*Admin Dashboard\*\*:

- Real-time monitoring of all games

- Financial reports (deposits/withdrawals)

- User management (ban/reset/transaction view)

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#### \*\*4. Game Development Specifications\*\*

\*\*Slot Game Template\*\*:

```javascript

// Sample slot configuration

{

id: "egyptian\_riches",

name: "Egyptian Riches",

reels: 5,

paylines: 20,

rtp: 96.2, // Real money

demoRtp: 98.5,

volatility: "Medium",

features: ["Wilds", "Free Spins", "Multipliers"]

}

```

\*\*Aviator Crash Algorithm\*\*:

```python

# Provably Fair Crash Point Calculation

def calculate\_crash\_point(server\_seed, client\_seed, nonce):

combined = f"{server\_seed}-{client\_seed}-{nonce}"

hash = sha256(combined.encode()).hexdigest()

crash\_point = int(hash[:8], 16) % 10000 / 100.0

return max(1.0, crash\_point) # Ensures minimum 1x multiplier

```

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#### \*\*5. Design & Branding\*\*

\*\*Logo Concept\*\*:

- Crown + Dice + Crypto Symbol (Purple/Gold/Black)

- Font: Cinzel (Elegant) + Exo 2 (Modern)

\*\*UI Components\*\*:

1. Landing Page:

- Hero: "Play Demo Instantly" CTA

- Game Showcase (Filter by: Slots/Crash)

- Live Aviator Game Preview

2. Game Lobby:

- Demo/Real Mode Toggle

- Favorites Section

- $20 Demo Badge

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#### \*\*6. Security & Compliance\*\*

- \*\*Auto-Withdrawal Safeguards\*\*:

- 24-hour withdrawal cooldown after password change

- Wallet address verification (72-hour hold for new addresses)

- \*\*Certifications\*\*:

- iTech Labs RNG Certification

- NOWPayments KYC Integration

- SSL/TLS 1.3 Encryption

\*\*Next Steps\*\*:

1. Generate seed slots themes (Space, Mythology, Animals)

Provide a configuration point on the admin end to Configure NOWPayments merchant account to make it easy for the user to connect the API and web hooks and other Now payment requirements.