

# Full Stack Developer - Smart Sipa Game Lead Developer

**Company:** Anotoys Labs


**Location:**  Taguig, Metro Manila, Philippines

**Employment Type:** Full-time

**Duration:** Initial 3.5-month contract with potential for extension

**Start Date:** Immediate

## About Anotoys Labs






Anotoys Labs is revolutionizing the toy industry by creating innovative physical-digital experiences that bridge traditional play with cutting-edge technology. Our flagship product, Smart Sipa, transforms the traditional Filipino game into an interactive motion-based gaming experience. 

## Position Overview

We are seeking an exceptional Full Stack Developer to lead the development of the Smart Sipa motion-based game application. This is a critical role where you'll transform our completed UI/UX prototypes into a fully functional game that uses camera-based motion detection for gameplay. You'll implement real-time motion tracking, scoring systems, and create an engaging digital experience that complements our physical Smart Sipa product.

## Priority Project: Smart Sipa Game Development

### Core Game Features to Implement

-  **Camera-Based Motion Detection:** Real-time tracking of sipa movements using device camera
-  **Gesture Recognition:** Detect kicks, catches, and tricks for gameplay mechanics
-  **Score Tracking System:** Real-time scoring with combo multipliers and achievement tracking
-  **Game Modes:** Solo practice, timed challenges, and multiplayer competitions
-  **Performance Analytics:** Track player improvement and technique analysis

## Key Responsibilities

### Game Development (Primary Focus)

- Implement computer vision algorithms for motion detection and tracking
- Develop real-time gameplay mechanics with smooth frame rates (60 FPS target)
- Create responsive game controls and intuitive user interactions
- Build multiplayer functionality with real-time synchronization
- Integrate physics engine for realistic sipa movement simulation

### Technical Implementation

- Transform UI/UX game prototypes into production-ready mobile application
- Implement camera API integration for iOS and Android platforms
- Develop scoring algorithms and leaderboard systems
- Create offline mode with data synchronization
- Build achievement and progression systems

### Motion Detection & Computer Vision

- Implement pose estimation for player movement tracking
- Develop algorithms for kick detection and accuracy measurement
- Create calibration system for different lighting conditions
- Optimize camera processing for battery efficiency
- Build fallback mechanisms for devices with limited camera capabilities

### Backend Development

- Design scalable backend for user profiles and game statistics
- Implement real-time multiplayer server infrastructure
- Create secure authentication and user management system
- Build cloud-based save system for game progress
- Develop analytics pipeline for gameplay data

## Required Qualifications

### Game Development Skills

- **Mobile Game Development:** 3+ years developing mobile games (iOS/Android)
- **Motion Tracking:** Experience with camera-based motion detection or AR applications
- **Computer Vision:** Knowledge of OpenCV, ML Kit, or similar frameworks
- **Game Engines:** Unity3D or native mobile development (React Native/Flutter)

- **Real-time Systems:** Experience with low-latency, high-performance applications

## Technical Skills

- **Languages:** JavaScript/TypeScript, Python, C++ (for performance-critical components)
- **Mobile:** React Native, Flutter, or native iOS/Android development
- **Computer Vision:** TensorFlow.js, MediaPipe, or PoseNet experience
- **Backend:** Node.js, WebSocket implementation, real-time databases
- **Cloud:** AWS/GCP for scalable game backend infrastructure

## Essential Experience

- Proven track record of shipping mobile games or motion-based applications
- Experience with real-time multiplayer game development
- Portfolio demonstrating camera-based interactive applications
- Understanding of game physics and animation systems
- Performance optimization for mobile devices

## ★ Preferred Qualifications

- Experience with fitness or sports-related applications
- Knowledge of pose estimation and human movement analysis
- Background in traditional Filipino games or cultural applications
- Experience with gamification and player engagement strategies
- Familiarity with WebGL/Three.js for future web implementation

## 🔧 Smart Sipa Technical Requirements

### 🏃 Motion Detection Implementation

- Real-time pose estimation (15+ keypoints tracking)
- Kick detection with velocity and angle measurement
- Trick recognition system (inside kick, outside kick, knee bounce)
- Multi-player tracking in same camera frame
- Accuracy validation to prevent cheating

## Performance Requirements

- 60 FPS gameplay on mid-range devices
- <100ms latency for motion detection
- Offline mode with full functionality
- Battery optimization (<20% drain per hour)
- Support for devices 3 years or older



## Project Timeline & Deliverables

### Month 1: Core Game Development

- Week 1-2: Camera integration and basic motion detection
- Week 3: Gameplay mechanics and scoring system
- Week 4: First playable prototype with core features

### Month 2: Feature Implementation

- Week 1-2: Multiplayer functionality and real-time sync
- Week 3: Advanced motion detection and trick recognition
- Week 4: Performance optimization and device compatibility

### Month 3: Polish & Launch Preparation

- Week 1-2: UI/UX implementation and animations
- Week 3: Beta testing and bug fixes
- Week 4: Final optimization and deployment preparation

### Month 3.5: Launch

- Production deployment of Smart Sipa Version 1
- Post-launch support and monitoring
- Planning for The Cave integration



## What We Offer

- 💰 Competitive salary: Dependent on XP
- 🚀 Opportunity to create the first motion-based Filipino traditional game
- 🔬 Work with cutting-edge computer vision technology
- 📈 Potential for long-term employment and technical leadership role
- 🇵🇭 Direct impact on preserving and modernizing Filipino culture
- 👥 Collaborative work environment with talented designers and artists



## Technical Environment

- **Game Development:** Unity3D/React Native with native modules
- **Computer Vision:** MediaPipe, TensorFlow.js, OpenCV
- **Backend:** Node.js, Socket.io, PostgreSQL, Redis
- **Infrastructure:** AWS GameLift, CloudFront CDN
- **Analytics:** GameAnalytics, Firebase, Custom metrics

## Application Requirements

Please submit:

1. Updated CV highlighting game development experience
2. Portfolio showcasing:
  - Mobile games you've developed
  - Motion-based or AR applications
  - Real-time multiplayer implementations
3. GitHub profile with relevant code samples
4. Brief cover letter explaining:
  - Your approach to motion-based game development
  - Experience with camera-based interactions
  - Ideas for making Smart Sipa engaging

## Interview Process

1. Initial technical screening (30 minutes)
2. Technical assessment: Build a simple motion detection prototype
3. Game development deep-dive with CTO (1 hour)
4. Team collaboration assessment (45 minutes)
5. Final interview with stakeholders

## Important Notes

- Must be available to start immediately on Smart Sipa development
- The Cave platform development will begin after Smart Sipa launch
- Strong focus on game performance and user experience
- Must be comfortable with rapid prototyping and iteration

## How to Apply

Send your application to: [peter@anotoys.com](mailto:peter@anotoys.com)

Subject Line: Full Stack Developer - Smart Sipa Game Developer

Application Deadline: [2 weeks from posting date]

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*Anotoys Labs is an equal opportunity employer committed to building a diverse and inclusive team. We welcome applications from all qualified candidates regardless of race, gender, age, religion, identity, or experience.* 