# ARG Framework: The Ultimate Platform for Creating Immersive Alternate Reality Games

Welcome to the ARG Framework, a comprehensive, production-ready PHP application designed for crafting and managing engaging, puzzle-based Alternate Reality Games (ARGs). Whether you're planning a corporate team-building event, an educational challenge, or a complex narrative experience, this framework provides all the tools you need to bring your vision to life.

Built with a focus on security, stability, and ease of use, the framework features a secure, object-oriented codebase, a normalized database schema, and a sleek, intuitive user interface for both players and administrators.

## 🚀 Key Features

### For Players: A Seamless Gaming Experience

* **Secure Account Management**: Simple and secure player registration and login, with "Forgot Username/Password" functionality.
* **Intuitive Player Dashboard**: A central hub displaying available and solved puzzles, tracking progress through the game.
* **Dynamic Puzzle Solving**: Engage with a variety of puzzle types, from simple text-based riddles to interactive location-based challenges.
* **Built-in Hint System**: Players can request hints for challenging puzzles, ensuring a smooth and enjoyable experience.
* **Personal Profile Management**: Players can update their credentials and reset their game progress if they wish to start over.
* **Themed & Responsive UI**: A modern, fully responsive design that looks great on any device, with full support for custom themes.

### For Administrators: Powerful & Granular Control

* **At-a-Glance Admin Dashboard**: Monitor key game metrics, including player count, puzzle count, and the current leaderboard champion.
* **Advanced Puzzle Editor**:
  + **Multiple Puzzle Types**: Create diverse challenges with support for Simple Text, Multiple Choice, Location-Based GPS, and physical QR Code Scanning.
  + **Rich Content Integration**: Enhance puzzles with images, videos, audio files, and external links.
  + **Integrated Media Library**: Upload media once and reuse it across multiple puzzles with a simple selection modal, complete with search and filtering.
  + **Complex Puzzle Logic**: Define prerequisites for puzzles to create branching or linear storylines.
* **Live Game Management**:
  + **Drag-and-Drop Reordering**: Instantly change the puzzle order.
  + **Game Logic Visualizer**: View an interactive flowchart of your entire game's structure to easily identify narrative pathways and dependencies.
  + **Live Toggles**: Enable or disable puzzle visibility and prerequisite requirements on the fly.
* **Comprehensive Player Management**: View detailed progress for every player, manually adjust puzzle completion status, and reset individual progress for testing or support.
* **Full Theming and Branding Control**:
  + **Site-Wide Customization**: Modify the game's public name and welcome description.
  + **Theme Manager**: Customize the site's color scheme to match your brand or story. Import and export themes as JSON files.
  + **Custom Banners & Videos**: Set a custom introductory video and a final victory page with unique content and downloadable media.
* **Timed Game Release**: Lock the game until a specific date and time, showing a public countdown page to build anticipation.

## 🛠️ Technical Stack & Security

The ARG Framework is built on a robust and secure foundation:

* **Backend**: PHP (Object-Oriented)
* **Database**: MySQL
* **Frontend**: HTML, CSS, JavaScript (with Mermaid.js for visualization)
* **Dependencies**: PHPMailer for reliable SMTP email delivery.

Security is a top priority. The framework includes:

* **SQL Injection Prevention**: All database queries are handled with prepared statements.
* **Cross-Site Scripting (XSS) Protection**: All user-generated output is sanitized.
* **CSRF Protection**: All sensitive forms are protected with CSRF tokens.
* **Secure Password Hashing**: Passwords are securely hashed using the modern PASSWORD\_DEFAULT algorithm.

## 🚀 Getting Started

A detailed INSTALL\_GUIDE.md is included to walk you through the setup process using automated scripts for both Linux and Windows (XAMPP). The basic steps are:

1. Set up a local server environment (like XAMPP or a standard LAMP stack).
2. Run the appropriate installation script (install.sh for Linux, install.bat for Windows).
3. Follow the interactive prompts to configure your database and create your admin user.

Once installed, you can immediately begin creating your world. Welcome to the game.