

# Project Proposal: Automated Escrow & Group Ownership Transfer Bot

## Overview

This project aims to develop a Telegram bot that acts as an **automated escrow service** and **coordinator** for buying and selling Telegram groups (or similar community assets). The bot will manage escrow payments (crypto-based), verify group metadata, track ownership transfers, and release funds upon successful verification. It will also provide dispute resolution features and support a future marketplace for listing groups.

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## Key Features

### 1. Escrow Payment System

- Buyer selects a listing and pays into escrow (crypto wallet integration).
- Bot confirms escrow funding and displays status:  
*"Escrow funded — awaiting ownership transfer."*
- Supported payment methods: USDT, ETH, BTC (expandable).

### 2. Guided Transfer Workflow

- Seller follows bot-guided steps:
  1. Add buyer as a group member.
  2. Promote buyer to admin with full permissions.
  3. Transfer group ownership to buyer.
- Bot continuously monitors the group's admin list and creator field to detect ownership changes.

### **3. Automated Verification**

- Once transfer is detected, bot verifies:
  - Group metadata matches the original listing (username, title, pinned message, etc.).
  - Buyer is now the group owner.
- If verification succeeds → bot releases escrow to seller.
- If verification fails or times out → bot refunds buyer (or triggers dispute flow).

### **4. Dispute & Audit Mechanism**

- Bot maintains auditable logs:
  - Timestamps of key actions.
  - Metadata snapshots (before and after transfer).
  - Optional seller proof screenshots.
- Dispute panel available:
  - Human arbitrators can review logs.
  - Final decision: refund or release funds.

### **5. Marketplace (Future Expansion)**

- Sellers can list groups through the bot.
- Bot performs pre-checks:
  - Bot must be an admin in the group (to validate listing).
  - Captures group creation date, size, username, etc.
- Bot publishes listing to marketplace channel with pricing (USD equivalent).

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## Limitations

- Bot **cannot force transfer of ownership**.
  - Only the human creator can initiate transfer.
  - Bot can only *detect* the change and validate.
- If seller refuses transfer, buyer is refunded.
- Platform reliance: features depend on Telegram Bot API permissions.

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## Security & Trust Considerations

- Escrow wallet implementation via smart contract or multisig (to reduce trust in bot operator).
- Anti-fraud mechanisms for fake listings.
- KYC-lite checks (optional, future expansion) for reducing abuse.
- Strict logging for disputes and regulatory transparency.

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## High-Level Flow

1. Buyer chooses listing → pays escrow.
2. Bot confirms escrow funded.
3. Seller follows guided transfer steps.
4. Bot monitors group ownership → verifies transfer.
5. If successful → seller receives funds, buyer owns group.

6. If failed or timeout → buyer refunded.
7. Disputes handled manually with logs.