

# Ball Skill - Comprehensive Governance & Safety Framework

## User Safety & Content Moderation System

### 1. Multi-Tier Reporting System

javascript

// Comprehensive reporting categories with auto-escalation

```
const REPORTING_SYSTEM = {
  report_categories: {
    CHEATING: {
      subcategories: [
        'fake_shots', 'video_manipulation', 'multiple_accounts',
        'bot_usage', 'location_spoofing', 'timer_manipulation'
      ],
      severity: 'HIGH',
      auto_investigation: true,
      temporary_suspension: 'pending_review',
      evidence_required: ['video_proof', 'technical_logs', 'witness_reports']
    },

    INAPPROPRIATE_CONTENT: {
      subcategories: [
        'profanity', 'sexual_content', 'violence_threats',
        'hate_speech', 'spam_messages', 'self_harm_content'
      ],
      severity: 'MEDIUM_TO_HIGH',
      auto_moderation: 'ai_content_filter',
      human_review: 'flagged_content',
      immediate_action: 'content_hidden_pending_review'
    },

    HARASSMENT: {
      subcategories: [
        'personal_attacks', 'cyberbullying', 'stalking',
        'doxxing', 'revenge_posting', 'coordinated_harassment'
      ],
      severity: 'HIGH',
      immediate_protection: 'auto_block_reported_user',
      priority_review: '24_hour_response_time',
      support_resources: 'mental_health_resources_provided'
    },

    FINANCIAL_FRAUD: {
      subcategories: [
        'payment_disputes', 'prize_theft', 'tournament_manipulation',
        'fake_transactions', 'money_laundering', 'underage_gambling'
      ],
      severity: 'CRITICAL',
      immediate_action: 'freeze_financial_activity',
```

```
    legal_involvement: 'law_enforcement_notification_if_required',
    investigation_team: 'specialized_financial_crimes_unit'
  },
```

```
  TECHNICAL_ISSUES: {
    subcategories: [
      'app_crashes', 'video_upload_failures', 'payment_errors',
      'performance_lag', 'data_sync_issues', 'feature_bugs'
    ],
    severity: 'LOW_TO_MEDIUM',
    auto_diagnostics: 'system_health_check',
    priority_routing: 'technical_support_team',
    user_compensation: 'credits_for_lost_games_or_time'
  }
},
```

*// Smart escalation system*

```
escalation_triggers: {
  multiple_reports_same_user: 'auto_escalate_after_3_reports',
  severity_threshold: 'high_severity_immediate_human_review',
  repeat_offender: 'faster_escalation_for_users_with_prior_violations',
  mass_reporting: 'detection_of_coordinated_false_reporting'
}
};
```

*// AI-powered content filtering*

```
const CONTENT_MODERATION_AI = {
  text_filtering: {
    profanity_detection: {
      levels: ['mild', 'moderate', 'severe'],
      actions: ['warning', 'content_removal', 'account_suspension'],
      context_aware: 'sports_trash_talk_vs_harassment',
      customizable_by_age: 'stricter_for_under_18'
    },

    hate_speech_detection: {
      categories: ['racial', 'gender', 'religious', 'lgbtq', 'disability'],
      zero_tolerance: true,
      immediate_action: 'content_removal + account_review',
      reporting_to_authorities: 'credible_threats_reported'
    },

    spam_detection: {
      patterns: ['repetitive_messages', 'promotional_content', 'link_spam'],
```

```
        rate_limiting: 'automatic_message_throttling',
        shadow_ban: 'gradual_reach_reduction_for_repeat_spammers'
    },
    video_content_filtering: {
        inappropriate_content: {
            nudity_detection: 'ai_image_analysis',
            violence_detection: 'content_analysis_for_fighting',
            fake_shot_detection: 'technical_analysis_of_basketball_physics'
        },
        performance_verification: {
            shot_authenticity: 'computer_vision_verification',
            location_verification: 'gps_and_background_analysis',
            timing_verification: 'frame_rate_and_timestamp_analysis'
        }
    }
};
```

## 2. Age-Based Safety Controls

```
javascript
```

```
// Comprehensive parental controls and age restrictions
```

```
const AGE_BASED_CONTROLS = {  
  age_tiers: {  
    UNDER_13: {  
      features_disabled: [  
        'direct_messaging', 'video_sharing', 'real_money_events',  
        'social_media_integration', 'location_sharing', 'voice_chat'  
      ],  
      parental_consent_required: 'all_activities',  
      spending_limits: 'parent_controlled_only',  
      content_filtering: 'maximum_restrictions',  
      interaction_limits: 'friends_and_family_only'  
    },  
  
    AGES_13_17: {  
      features_restricted: [  
        'high_stakes_events', 'direct_payments', 'content_creation_tools'  
      ],  
      parental_oversight: {  
        spending_notifications: 'real_time_to_parents',  
        weekly_activity_reports: 'detailed_usage_summaries',  
        content_access_controls: 'parent_configurable_filters',  
        time_limits: 'enforced_screen_time_limits'  
      },  
      default_privacy: 'friends_only',  
      messaging_restrictions: 'monitored_communications'  
    },  
  
    AGES_18_PLUS: {  
      full_platform_access: true,  
      self_moderated_content: true,  
      financial_responsibility: 'full_control',  
      privacy_controls: 'user_configurable'  
    }  
  },  
},
```

```
// Parental dashboard for minors
```

```
parental_controls: {  
  spending_controls: {  
    daily_limits: 'parent_set_maximum_spending',  
    approval_required: 'transactions_over_threshold',  
    spending_reports: 'detailed_financial_summaries',  
    refund_authority: 'parents_can_request_refunds_for_minors'
```

```
    },  
  
    time_management: {  
      daily_limits: 'maximum_app_usage_time',  
      quiet_hours: 'no_app_access_during_specified_hours',  
      break_reminders: 'forced_breaks_every_hour',  
      homework_mode: 'app_disabled_during_study_time'  
    },  
  
    social_controls: {  
      friend_approval: 'parent_approval_for_new_friends',  
      messaging_monitoring: 'keyword_alerts_to_parents',  
      stranger_blocking: 'auto_block_unknown_users',  
      reporting_assistance: 'simplified_reporting_for_children'  
    }  
  }  
};
```

### 3. Strike System & Progressive Discipline

javascript

```
// YouTube-style progressive discipline system
```

```
const VIOLATION_STRIKE_SYSTEM = {  
  strike_levels: {  
    FIRST_STRIKE: {  
      duration: '24_hour_restrictions',  
      penalties: [  
        'messaging_disabled',  
        'tournament_entry_suspended',  
        'warning_notification_sent'  
      ],  
      educational_content: 'community_guidelines_training_required',  
      appeal_process: 'automated_appeal_available'  
    },  
  
    SECOND_STRIKE: {  
      duration: '7_day_restrictions',  
      penalties: [  
        'video_upload_disabled',  
        'prize_money_frozen',  
        'social_features_disabled',  
        'reduced_platform_visibility'  
      ],  
      educational_content: 'mandatory_behavior_course',  
      appeal_process: 'human_review_required'  
    },  
  
    THIRD_STRIKE: {  
      duration: '30_day_suspension',  
      penalties: [  
        'full_platform_suspension',  
        'forfeiture_of_current_tournaments',  
        'profile_visibility_removed'  
      ],  
      reinstatement_requirements: [  
        'written_appeal_with_behavior_plan',  
        'completion_of_community_service_hours',  
        'video_interview_with_moderation_team'  
      ]  
    },  
  
    PERMANENT_BAN: {  
      triggers: [  
        'fourth_strike_within_12_months',
```

```
        'severe_violation_regardless_of_history',
        'legal_violations',
        'financial_fraud_confirmed'
    ],
    consequences: [
        'account_permanently_disabled',
        'device_ban_implemented',
        'payment_methods_blacklisted',
        'legal_action_if_applicable'
    ],
    appeal_process: 'executive_review_only'
}
},

// Strike reduction system
strike_recovery: {
    good_behavior_reduction: '6_months_without_violations_removes_1_strike',
    community_service: 'volunteer_coaching_reduces_strike_severity',
    educational_completion: 'behavior_courses_can_reduce_penalties',
    positive_contributions: 'helping_new_users_earns_strike_forgiveness'
}
};
```

## 4. Shadow Banning & Soft Moderation

javascript



```

// Graduated response system for problematic users
const SHADOW_MODERATION_SYSTEM = {
  shadow_ban_triggers: {
    borderline_behavior: 'not_severe_enough_for_strikes_but_problematic',
    mass_reports: 'multiple_users_reporting_but_unclear_violations',
    suspicious_activity: 'potential_cheating_under_investigation',
    new_user_protection: 'restrict_new_accounts_until_verified'
  },

  shadow_ban_effects: {
    reduced_visibility: {
      tournament_listings: 'appear_lower_in_search_results',
      social_features: 'fewer_people_see_posts_and_comments',
      matchmaking: 'paired_with_other_shadow_banned_users',
      leaderboards: 'achievements_less_prominent'
    },

    limited_interactions: {
      messaging_delays: 'messages_take_longer_to_deliver',
      friend_requests: 'requests_require_additional_verification',
      content_reach: 'posts_have_reduced_algorithmic_boost',
      tournament_priority: 'lower_priority_in_event_queues'
    }
  },

  // Transparency levels
  user_awareness: {
    completely_hidden: 'user_unaware_of_shadow_ban',
    subtle_hints: 'reduced_engagement_suggests_limitation',
    direct_notification: 'told_about_restrictions_for_serious_cases',
    appeal_available: 'can_request_review_of_shadow_ban_status'
  }
};

```

## Account Management & User Experience

### 5. Account Recovery & Security

javascript

```
// Comprehensive account recovery and security system
```

```
const ACCOUNT_SECURITY_SYSTEM = {  
  password_recovery: {  
    multi_factor_options: [  
      'email_verification',  
      'sms_code',  
      'authenticator_app',  
      'security_questions',  
      'biometric_verification'  
    ],  
  
    recovery_process: {  
      step1: 'identity_verification_via_multiple_methods',  
      step2: 'account_activity_review_for_suspicious_behavior',  
      step3: 'temporary_password_with_forced_change',  
      step4: 'security_audit_and_breach_notification'  
    },  
  
    enhanced_security: {  
      device_recognition: 'trusted_device_tracking',  
      location_monitoring: 'unusual_location_alerts',  
      spending_pattern_analysis: 'fraud_detection_algorithms',  
      session_management: 'automatic_logout_from_suspicious_sessions'  
    }  
  },  
  
  account_verification: {  
    verification_tiers: {  
      email_verified: 'basic_feature_access',  
      phone_verified: 'financial_transaction_access',  
      id_verified: 'high_stakes_tournament_access',  
      video_verified: 'content_creator_features',  
      background_checked: 'youth_interaction_permissions'  
    },  
  
    verification_process: {  
      automated_checks: 'ai_verification_where_possible',  
      human_review: 'manual_verification_for_high_value_accounts',  
      document_verification: 'government_id_and_address_confirmation',  
      video_call_verification: 'live_identity_confirmation_for_celebrities'  
    }  
  }  
}
```

```
}  
};
```

## 6. Membership & Financial Management

javascript

```
// Comprehensive membership and financial controls
```

```
const MEMBERSHIP_MANAGEMENT = {  
  subscription_controls: {  
    cancellation_options: {  
      immediate_cancellation: 'lose_benefits_immediately',  
      end_of_period_cancellation: 'benefits_until_expiration',  
      pause_subscription: '1_month_pause_option_per_year',  
      downgrade_options: 'step_down_to_lower_tiers'  
    },  
  
    retention_strategies: {  
      exit_survey: 'understand_cancellation_reasons',  
      win_back_offers: 'discounted_rates_to_prevent_churn',  
      feature_highlights: 'remind_users_of_unused_benefits',  
      pause_instead_of_cancel: 'temporary_pause_for_financial_hardship'  
    }  
  },  
  
  refund_system: {  
    automatic_refunds: {  
      technical_issues: 'server_downtime_during_paid_events',  
      payment_errors: 'double_charges_or_incorrect_amounts',  
      app_bugs: 'lost_progress_due_to_software_issues'  
    },  
  
    manual_review_refunds: {  
      unsatisfactory_experience: 'case_by_case_goodwill_refunds',  
      changed_circumstances: 'life_events_affecting_ability_to_use',  
      disputed_charges: 'investigation_based_refund_decisions'  
    },  
  
    refund_policies: {  
      time_limits: '30_days_for_most_requests',  
      usage_limits: 'no_refund_if_extensively_used',  
      abuse_prevention: 'pattern_detection_for_refund_abuse'  
    }  
  },  
  
  // Gift system  
  gifting_system: {  
    gift_cards: {  
      denominations: [10, 25, 50, 100, 250],  
      expiration: '1_year_from_purchase',  

```

```
    restrictions: 'cannot_be_used_for_cash_withdrawal',
    fraud_protection: 'purchase_limits_and_verification'
  },

  gifted_memberships: {
    duration_options: ['1_month', '3_months', '6_months', '1_year'],
    recipient_notification: 'email_with_redemption_instructions',
    giver_notification: 'confirmation_of_gift_activation',
    upgrade_path: 'recipient_can_upgrade_to_higher_tier'
  },

  referral_rewards: {
    referrer_benefits: '$10_credit_when_referee_subscribes',
    referee_benefits: '50%_off_first_month',
    fraud_prevention: 'unique_codes_with_usage_tracking',
    tier_restrictions: 'must_be_active_member_to_refer'
  }
}
};
```

## 7. Privacy & Data Protection

javascript

```

// GDPR/CCPA compliant privacy system
const PRIVACY_PROTECTION_SYSTEM = {
  data_collection_transparency: {
    data_categories: {
      essential: 'account_info_performance_data_payment_info',
      functional: 'preferences_settings_usage_patterns',
      analytics: 'aggregated_behavior_performance_metrics',
      marketing: 'promotional_preferences_social_media_integration'
    },

    user_controls: {
      granular_permissions: 'opt_in_out_of_each_data_category',
      data_download: 'complete_data_export_in_readable_format',
      data_deletion: 'right_to_be_forgotten_with_exceptions',
      data_portability: 'transfer_data_to_other_platforms'
    }
  },

  privacy_by_design: {
    default_settings: 'most_private_settings_by_default',
    data_minimization: 'collect_only_necessary_data',
    purpose_limitation: 'data_used_only_for_stated_purposes',
    retention_limits: 'automatic_deletion_after_specified_periods'
  },

  // Age-appropriate privacy
  minor_protection: {
    enhanced_privacy: 'stricter_data_collection_for_under_18',
    parental_access: 'parents_can_view_data_collected_on_minors',
    advertising_restrictions: 'no_targeted_ads_for_children',
    third_party_sharing: 'prohibited_for_minor_accounts'
  }
};

```

## Technical Implementation Database Schema

### 8. Moderation & Reporting Tables

sql

-- User reports and moderation tracking

```
CREATE TABLE user_reports (  
  id SERIAL PRIMARY KEY,  
  reporter_id INTEGER REFERENCES users(id),  
  reported_user_id INTEGER REFERENCES users(id),
```

-- Report details

```
  report_category VARCHAR(30),  
  report_subcategory VARCHAR(50),  
  description TEXT,  
  evidence_urls TEXT[],
```

-- Status tracking

```
  status VARCHAR(20) DEFAULT 'PENDING', -- PENDING, UNDER_REVIEW, RESOLVED, DISMISSED  
  severity VARCHAR(20),  
  assigned_moderator_id INTEGER REFERENCES staff(id),
```

-- Resolution

```
  resolution_action VARCHAR(50),  
  resolution_notes TEXT,  
  resolved_at TIMESTAMP,
```

```
  created_at TIMESTAMP DEFAULT NOW(),  
  updated_at TIMESTAMP DEFAULT NOW()
```

```
);
```

-- User violation history

```
CREATE TABLE user_violations (  
  id SERIAL PRIMARY KEY,  
  user_id INTEGER REFERENCES users(id),
```

-- Violation details

```
  violation_type VARCHAR(30),  
  violation_description TEXT,  
  evidence JSONB,
```

-- Strike system

```
  strike_number INTEGER,  
  strike_expires_at TIMESTAMP,
```

-- Penalties applied

```
  penalty_type VARCHAR(30),  
  penalty_duration INTERVAL,
```

```

penalty_start TIMESTAMP DEFAULT NOW(),
penalty_end TIMESTAMP,

-- Appeals
appeal_submitted BOOLEAN DEFAULT FALSE,
appeal_approved BOOLEAN,
appeal_notes TEXT,

created_at TIMESTAMP DEFAULT NOW()
);

-- Shadow ban tracking
CREATE TABLE shadow_ban_status (
  id SERIAL PRIMARY KEY,
  user_id INTEGER REFERENCES users(id),

  -- Shadow ban details
  is_shadow_banned BOOLEAN DEFAULT FALSE,
  shadow_ban_level VARCHAR(20), -- LIGHT, MODERATE, HEAVY
  shadow_ban_reason TEXT,

  -- Effects
  visibility_reduction_percent INTEGER DEFAULT 0,
  interaction_delays_seconds INTEGER DEFAULT 0,
  matchmaking_restrictions BOOLEAN DEFAULT FALSE,

  -- Duration
  shadow_ban_start TIMESTAMP DEFAULT NOW(),
  shadow_ban_end TIMESTAMP,

  created_at TIMESTAMP DEFAULT NOW(),
  updated_at TIMESTAMP DEFAULT NOW(),

  UNIQUE(user_id)
);

```

## 9. Account Management Tables

```

sql

```



-- Comprehensive user account management

CREATE TABLE user\_account\_status (

id SERIAL PRIMARY KEY,

user\_id INTEGER REFERENCES users(id),

-- Account health

account\_status VARCHAR(20) DEFAULT 'ACTIVE', -- ACTIVE, SUSPENDED, BANNED, PENDING\_VERIFICATION

verification\_tier VARCHAR(20) DEFAULT 'UNVERIFIED',

-- Safety metrics

total\_reports\_received INTEGER DEFAULT 0,

total\_reports\_made INTEGER DEFAULT 0,

current\_strike\_count INTEGER DEFAULT 0,

last\_violation\_date DATE,

-- Engagement controls

daily\_time\_limit\_minutes INTEGER,

parental\_controls\_active BOOLEAN DEFAULT FALSE,

restricted\_features TEXT[],

-- Recovery info

trusted\_devices JSONB,

backup\_emails TEXT[],

security\_questions JSONB,

created\_at TIMESTAMP DEFAULT NOW(),

updated\_at TIMESTAMP DEFAULT NOW(),

UNIQUE(user\_id)

);

-- Gift card and referral tracking

CREATE TABLE gift\_cards (

id SERIAL PRIMARY KEY,

gift\_code VARCHAR(20) UNIQUE,

-- Gift details

purchaser\_id INTEGER REFERENCES users(id),

recipient\_id INTEGER REFERENCES users(id),

amount DECIMAL(10,2),

-- Status

status VARCHAR(20) DEFAULT 'ACTIVE', -- ACTIVE, REDEEMED, EXPIRED, CANCELLED

```
redeemed_at TIMESTAMP,  
expires_at TIMESTAMP,  
  
created_at TIMESTAMP DEFAULT NOW()  
);  
  
CREATE TABLE referral_tracking (  
  id SERIAL PRIMARY KEY,  
  referrer_id INTEGER REFERENCES users(id),  
  referee_id INTEGER REFERENCES users(id),  
  referral_code VARCHAR(20),  
  
  -- Reward tracking  
  referrer_reward_amount DECIMAL(8,2),  
  referee_reward_amount DECIMAL(8,2),  
  rewards_paid BOOLEAN DEFAULT FALSE,  
  
  -- Fraud prevention  
  ip_address INET,  
  device_fingerprint VARCHAR(255),  
  
  created_at TIMESTAMP DEFAULT NOW(),  
  UNIQUE(referrer_id, referee_id)  
);
```

This comprehensive governance system provides enterprise-level safety and administrative controls while maintaining user experience quality. It scales from small community management to handling millions of users with automated moderation and human oversight.