SGi

SmartGolf Token (SGi)

Abstract

SmartGolf transforms how people experience and engage with golf. As one of the most powerful sports for physical and mental health, golf is facing stagnation due to outdated business models and limited accessibility for younger generations and urban players. SmartGolf changes that. By combining AI-powered swing analysis, real-time feedback, and blockchain-based rewards, SmartGolf enables users not only to learn and improve, but to own and monetize their progress. With SmartGolf, golf practice becomes part of a decentralized value network. Every swing is verified, rewarded, and owned. It's not just a game. It's a new on-chain sport economy.

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1. Problem Statement

1.1 Environmental Barriers

- Traditional golf is expensive and weather dependent.

  Bad weather, heat, cold, or dust make practice inconsistent and inconvenient.

  High cost and low accessibility
  Golf practice requires expensive gear, coaching, and ideal outdoor conditions.

1.2 Technical Limitations

- Players want to improve but lack real feedback. Even with a coach, progress is slow and subjective.

  Hard to improve, even with effort
  Traditional coaching is somewhat vague, and improvement is not guaranteed.

1.3 Economic Philosophy

- In a world of user-generated content, golfers still play as consumers.

  Effort doesn't translate into ownership or rewards.

  Only consumption, no contribution
  Golfers pay, practice, and perform — but gain nothing beyond experience.

Expensive Golf

Hard to enjoy at home with affordable price.

Difficult Golf

Hard to improve golf skills.

Only consuming Golf

Golfers spend but don't earn or grow.

2. Proposed Solution

2.1 Environmental:

- Affordable practice from home or backyard, anytime, without weather worries.

SmartGolf makes golf accessible, flexible, and fun: even indoors.

2.2 Technical:

- Scientifically driven AI coaching replaces guesswork with precision.

Players improve based on data, not just intuition.

2.3 Economic:

- Players become producers and creators.

Each swing is verified and tokenized, turning practice into ownership and rewards. From passive player to active participant in the on-chain sports economy.

3. SMARTGOLF Technical Architecture

Designed with deep technical foundations, SmartGolf delivers a fully integrated swing-to-digital asset system. The system combines IoT hardware, proprietary AI coaching, and blockchain rewards to convert each golf swing into a secure, ownable digital asset—enabling a seamless cycle of practice, verification, and earning.
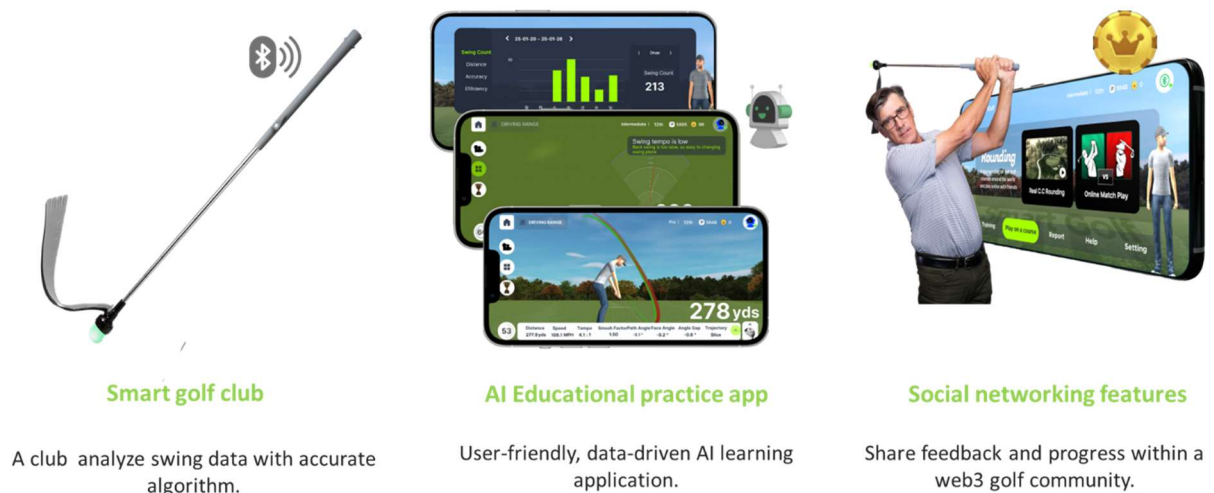
3.1 Core Technologies:

- **IoT Golf Clubs:** SmartGolf's clubs are equipped with 9-axis motion sensors that collect real-time swing data and display the swing path in 3D. This allows players to

see their unique swing posture in motion.

- **AI Coaching Engine:** Our AI analyzes per swing to provide real-time, personalized feedback. This engine is based on SmartGolf's proprietary golf physics and sensor interpretation.
- **Blockchain Integration:** By linking each swing to the SGi token on-chain, SmartGolf turns offline activity into verified digital assets.

Unlike basic swing sensors or video analysis apps, SmartGolf reconstructs player motion in real time and anchors performance data on-chain—laying the groundwork for tokenized rewards and fair online competition.

Additionally, SmartGolf supports creator-class swing NFTs—such as those from professional players—that are individually minted and monetized. NFTs can be burned in exchange for SGi tokens, and protected by an off-chain download control system to ensure fair access and prevent abuse.

Smart golf club

A club analyze swing data with accurate algorithm.

AI Educational practice app

User-friendly, data-driven AI learning application.

Social networking features

Share feedback and progress within a web3 golf community.

3.2 Security and Standards:

- **Swing NFTs:** Every recorded swing can be issued as a unique NFT, ensuring ownership
- **Smart Contracts:** Implemented for reward systems, DAO governance, and exchange compatibility.
- **KYC & Privacy Protection:** Employs zero-knowledge(zk) hash mechanisms for on-chain KYC, ensuring privacy-preserving identity verification.

Layer	Function	Example
Swing NFT Contract	Issues NFTs per validated swing; links metadata from motion sensors	mintSwingNFT()
Reward Contract	Calculates SGI Points and converts to SGI Coins based on on-chain activity	claimRewards()
Marketplace Contract	Enables users to trade swing NFTs or book AI coaching sessions	listSwingForSale()
DAO Governance Contract	Handles proposals, voting, fund allocation, and community-driven roadmap execution.	voteOnProposal()

All contracts follow upgradeable architecture (EIP-1967 proxy pattern), with regular audits and version tracking.

In addition, treasury assets are safeguarded through a **Gnosis Safe multi-signature wallet**. The DAO Treasury (4 out of 5) and Team Treasury (3 out of 5) are managed separately under this system, ensuring that no single party can unilaterally control funds. This structure enhances transparency, accountability, and protection against potential security risks.

3.3 On-chain KYC by Swing

Each user's swing signature is stored as a unique multi-sensor pattern (15 IMU inputs), enabling biometric-style verification.

- **Biometric Motion Signature**: Each swing generates a unique 15-sensor pattern (IMU), hashed and stored on-chain.
- **User KYC Hash Mapping:** Swing hashes are cryptographically mapped to anonymized KYC records, enabling secure yet privacy-compliant user verification.

3.4 Reward Flow Model

```
flowchart LR

    A[Practice Swing] --> B[Upload via App]
    B --> C{Validated?} -->|Yes| D[Mint NFT]
    D --> E[Earn SGI Points] --> F[Convert to SGI Coin] --> G[Use in Ecosystem]
```

Earns SGI points, which are then converted into SGI Coins for use across the SmartGolf ecosystem.

3.5 Competitive Advantage

- **Patented Technology**: With multiple patents in both the U.S. and Korea, SmartGolf's IoT club provides a verifiable technical moat and commercialization barrier.

- **Commercial Success**: Over 4,500 units sold through crowdfunding campaigns, demonstrating market traction.

- **Real-World Impact:** Strong partnerships with education systems and PGA professionals solidify SGI's relevance and scalability

3.6 Why SGi Matters

- Transforms real-time swing data into on-chain value via NFT and ERC20 tokenization.

- Fixed supply + burn model = deflationary incentive loop

- Full transparency: DAO-voted governance + open metrics

3.7 How SGi Compare to Others

Feature	SGi (SmartGolf)	Web2 Golf Apps / Sensors	Web3 Move-to-Earn (e.g. STEPN)
Reward Mechanism	AI-verified swings → NFT mint → SGi token reward	None	GPS-based distance rewards
Data Ownership	On-chain ownership of swing data	Stored on company servers	Partially anonymized user data
Community Participation	Tournament participation, user-driven decisions, DAO voting,	Basic SNS-style sharing	Discord-driven social activity
Product Integration	Connected to AIX smart club (hardware)	Sensors optional or sold separately	No physical integration
Revenue Streams	NFT mints, lesson fees, tournaments, course downloads	App subscriptions or ads	NFT sales and token speculation
Transparency & Trust	Full blockchain transparency; AI-verification embedded	Private backend systems	Mixed – some data on-chain

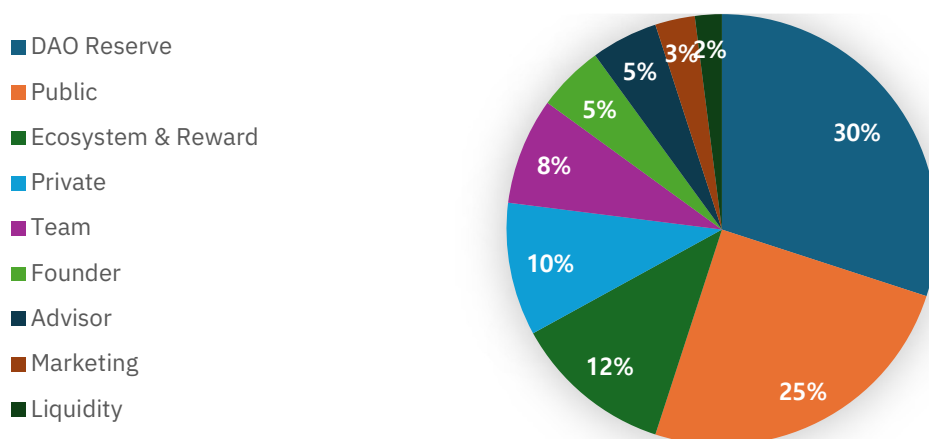SGi uniquely integrates AI-verified swing data, real-world hardware, and transparent Web3 incentives.

4. Tokenomics

4.1 Token Structure:

- **Total Supply: initially** 1 billion SGi tokens.
- **Swing Generation:** Each swing generates 1–3 SG Points based on quality and verification.
- **Conversion:** 1,000 SmartGolf Points = 1 SGi Token
- **Utility:** Used for equipment purchases, coaching sessions, course rounding, event participation, and DAO governance.
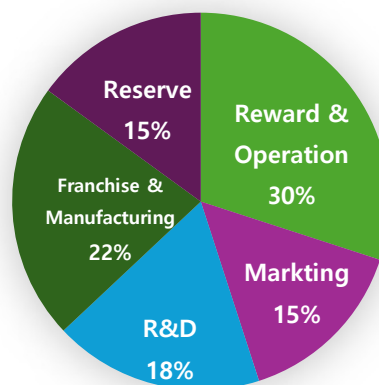
4.2 Token Distribution Plan:

The SGi token is allocated across strategic categories to ensure long-term sustainability, fair participation, and ecosystem growth. Lockup and vesting terms are applied to key stakeholders to promote commitment and prevent early dumps.

Legend:
- DAO Reserve
- Public
- Ecosystem & Reward
- Private
- Team
- Founder
- Advisor
- Marketing
- Liquidity

Pie chart values: 30%, 25%, 12%, 10%, 8%, 5%, 5%, 3%, 2%

Category	Lockup & Vesting Term
■ **DAO Reserve**	DAO governance, staking pool, etc.
■ **Public Sale**	10% under 3-month lockup + 6-month linear vesting post-TGE
■ **Ecosystem & Rewards**	Incentives for usage, gameplay, and NFT participation
■ **Strategic Partner Sale**	6-month lockup + 12-month linear vesting
■ **Team (incl. Reserve)**	Team (3.5) + reserved for expansion (4.5), 1-year lock + 1-year vesting
■ **Founder**	6-month lockup + 12-month linear vesting
■ **Advisor & Ambassador**	Optional vesting/lockup depending on contribution level
■ **Marketing**	Growth campaigns, influencer support
■ **Liquidity**	Initial DEX/CEX liquidity provisioning

4.3 Fund Allocation from Token Sale:

- ■ **Rewards & Operations:** 30%

- ■ **Franchise & Manufacturing:** 22%

- ■ **Marketing & Community:** 15%

- ■ **R&D:** 18%

- ■ **Reserve (Contingency fund):** 15%

4.4 Strategic Sale Terms & Vesting:

The public sale price is initially set at $1.00 per SGi token, in alignment with its internal utility valuation.
Strategic and private round discounts are offered relative to this benchmark, with structured vesting to ensure alignment and fairness.

- **TGE Model example:**

Round	SGi Reward	Additional Reward	Description
Standard	500 SGi	1 AIX Club	Contributors receiving SGi plus or an AIX Club for active participation.
Gold	10,000 SGi	Bonus 3% + 1 AIX Club + 2 year subscription + Event Pass	Premium contributors with hardware, subscription, and priority access.

At TGE, Contributors receive SGi and additional rewards. SGi will be subject to a 1~6 month lock, and 6~12 month linear vesting period. SGi holders can unlock a combination of physical rewards, digital features, and community governance rights. This tiered model supports both mass adoption and incentivized participation, while reinforcing SGi's identity as a non-securitized, real-world utility token.

4.5 Real Valuation Context:

The public sale price of SGi was originally set at $1.00 based on its internal utility value.

- 500 SGi = $500 → SGi = $1.00

However, since SGi is now listed on multiple CEXs, the actual trading price follows the exchange's listing price. In other words, while the initial reference price was $1.00, the market price is now determined by the listing price and subsequent market demand.

4.6 Utility Components:

- Access to AI swing coaching modules
- Gallery-based cheering participation in tournaments (token-supported prediction)
- Access to franchise-based SmartGolf Plaza locations and branded F&B rewards
- Minting and trading swing-based NFTs
- Entry into SmartGolf Plaza events and competitions
- Participation in DAO governance and platform voting
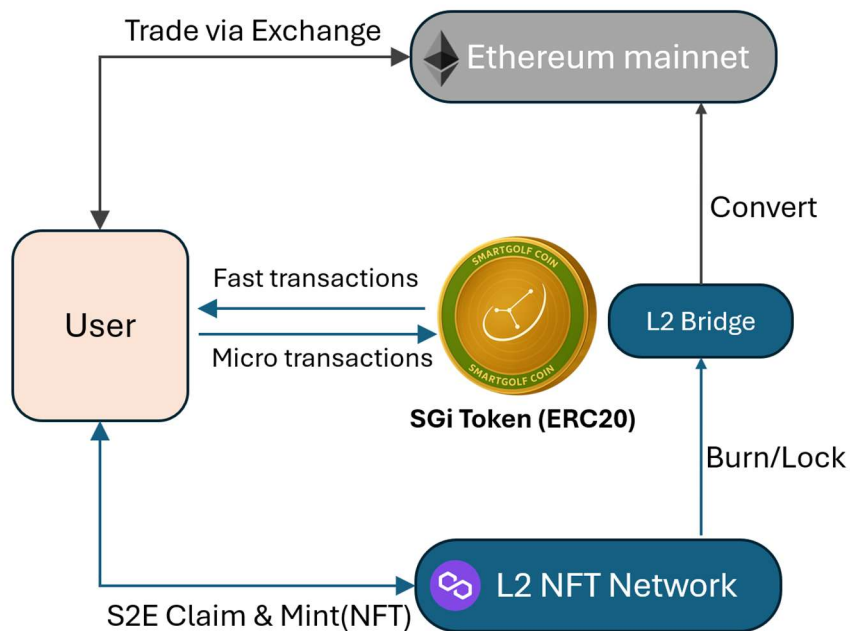- Token-based redemption of golf hardware (e.g., AIX Club) through token holding tiers

4.7 SGi Earn Flow with Layer 2 NFT Integration

✨ **Key Advantages of This Architecture**

- **Cost Efficiency**

  All reward claims and swing validations occur on Polygon via NFT minting, ensuring cost-efficiency. Only finalized token transfers to ERC20 require mainnet interaction.

- **Security & Transparency**

  SGi minting occurs only after NFT burn via a verifiable bridge → ensures full traceability and immutability.

- **Web3 Friendly Design**

  Users interact with familiar Web2-like interfaces and only engage with Ethereum mainnet when liquidity or trading is needed.

- **Token Separation for Utility and Proof**
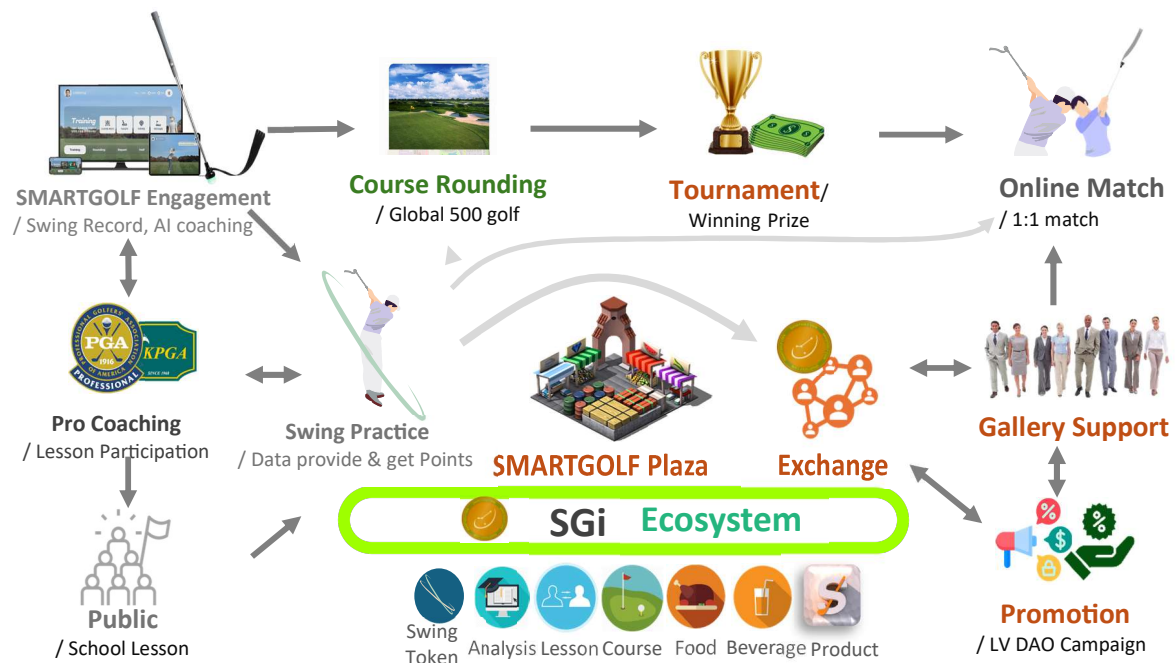 - NFT (ERC721): Swing-based proof of activity

o ERC20 SGi: Tradable, exchangeable, utility token

o SGi is an ERC-20 token fully deployed on the Ethereum mainnet. Swing-based NFTs operate on Polygon PoS for cost efficiency.

🛠 Technical Notes

- **L2 NFT Network**: Powered by Polygon PoS
- **Bridge Logic:** NFTs are burned on Polygon, triggering a verifiable mint on Ethereum. This ensures tamper-proof conversion and maintains mainnet token integrity.
- **Claim Logs:** Tracked across dApp, API, and server-side for auditability
- **Extensible:** Pro swing data (e.g., Tiger Woods) can also be minted as NFTs
- **Instant Conversion:** L2 NFTs are converted to ERC20 SGi tokens at a fixed ratio immediately upon user request without requiring DAO approval.
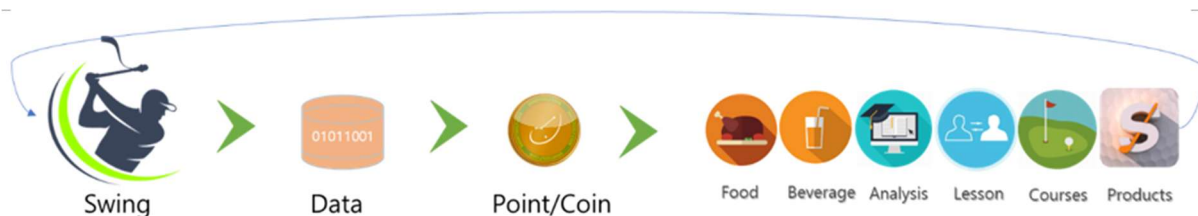
4.8 Ecosystem Components:

- **SmartGolf Club**: AI-integrated sensor golf club

- **SmartGolf App**: Real-time swing analysis, personalized AI feedback, and built-in digital wallet with downloadable courses

- **SmartGolf Plaza**: Physical venue for SGi-based tournaments, NFT rewards, and community gatherings

- **SmartGolf Tournament**: Tokenized entry into global and local golf competitions

- **Blockchain Layers**:

    - **Smart Contract Layer**: Rewards, staking, and ecosystem economics
    - **Governance Layer**: DAO voting, proposal mechanisms
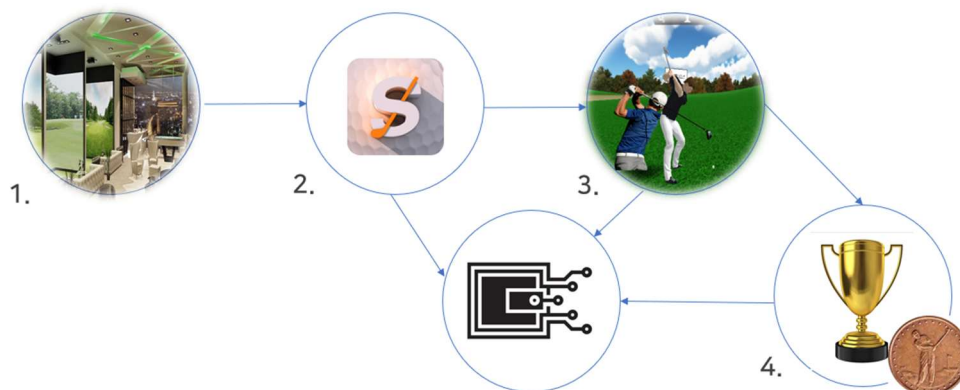   - **NFT Layer**: Minting/trading of swing-performance-based NFTs

5. Use Cases

5.1 Use Case I – Swing Tokenization

- **Players** practice at home using the SmartGolf AIX club. Each swing is recorded, analyzed by AI, and minted as an on-chain Swing NFT. These NFTs can be redeemed for SGi rewards, used for personalized coaching, or traded within the marketplace.

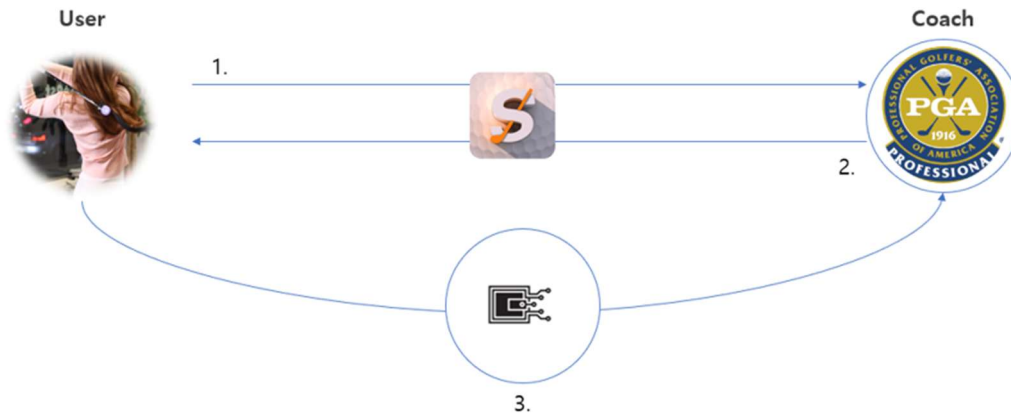### 5.2 Use Case II – SmartGolf Plaza Economy

- **Users** participate in multiplayer competitions or support players through token-based predictions at SmartGolf Plaza. All gameplay and cheering outcomes are transparently recorded on-chain, with SGi token rewards distributed based on performance or participation.

1. Users access SmartGolf Plaza (or play remotely via app and AIX club).
2. Players and gallery participants log in and connect through the SmartGolf system.
3. Players compete in multi-round matches; the gallery can cheer using SGi tokens.
4. Winners receive SGi token rewards based on gameplay and gallery support.

5.3 Use Case III – Additional Coaching

- **Users** receive personalized feedback from certified coaches by submitting swing data through the SmartGolf platform. Fees are paid in SGi tokens via smart

contracts, and sessions are managed through the SmartGolf digital wallet.

1. The user swings with a SmartGolf club; motion data is instantly uploaded to the system and matched with a certified coach.
2. The coach analyzes the swing data using SmartGolf AI tools and sends personalized feedback through the app, including drills and correction instructions.
3. Coaching fees are processed through smart contracts using SGi tokens, with automatic settlement via the SmartGolf digital wallet.

5.4 Use Case IV – Professional Swing NFT Distribution

Professional golfers (e.g., PGA players) can upload certified swing data and issue premium NFTs. These NFTs are sold on the SmartGolf marketplace using SGi tokens, and may include access to exclusive 3D swing visualizations. To ensure digital rights, each NFT includes a controlled download limit enforced via the SmartGolf off-chain authentication API.

1. Creator sets price (e.g., 100 SGi) and download cap (e.g., 3x)
2. Buyer proves NFT ownership on-chain to unlock access
3. API verifies eligibility and grants secure, signed access to swing content

This enables a new monetization model for sports talent, while adding high-value content to the SmartGolf ecosystem.

6. Market Opportunity: Reinvented for the Next Generation

- **Global Golf Population:** Over 85 million active players worldwide.
- **U.S. Golf Equipment Market:** Valued at $15.8B with increasing demand for smart and connected gear.
- **Digital Golf Courses:** Over 500 real courses adopting AI-powered infrastructure.
- **SmartGolf's Strategic Access:** Active deployments in U.S. schools (e.g., Houston ISD) and PGA-certified coaching programs.
- **Climate-Proof Practice:** Indoor SmartGolf systems solve the growing challenge of weather disruptions, heatwaves, rain, or extreme cold.
- **Community Golf:** SmartGolf Plaza enable community golf with supporting system
- **Affordable & Inclusive:** Drastically lowers costs, making golf accessible to youth, women, and returnees.
- **Web3-Ready Engagement:** Rebrands golf for younger generations by integrating digital ownership, fair rewards, and social play.

SmartGolf is not just joining the golf industry—
it's **redefining who plays, how they play, and why they play.**

7. Team

7.1 Core Team:

- **Jongmin Kim (CEO):**
  Founder of SmartGolf, Ph.D. in Electronics. Over a decade of innovation in golf swing analytics and now pioneering AI/Web3 integration in sports tech.

- **Jason Oh (CIO**):
  Former professor of Sookmyung University. Ph.D. in Economics, especially Tokenomics, Design in NFT commerce and Web3 and DAO design at SmartGolf.

- **Youngju Song (CTO):**
  Ph.D. in Electronics. Expert in Blockchain ecosystem and IoT communications.

- **Moon Jang (Software Development):**
  Full-stack AI/IoT developer with a background in mobile and embedded systems. Designed and built the SmartGolf AIX system architecture and AI engine.

7.2 Professional Golf Ambassadors:

PGA-certified coaches and professional players who actively use SmartGolf AIX for lessons and clinics, endorsing its accuracy and training value.

- **Steve Parker**, **JJ Wood**, **Steve Jurgenson**

7.3 Global Partners:

Support local expansion and user onboarding in their respective regions.

- **Terry Williams (USA)**
- **Lee Dewerson (Oceania)**

7.4 Advisors:

- **Park Kyungran** – Legal advisor, Partner attorney at Suoje Law firm
- **Fraser Warren** – Global Marketing in EU, Former VP, Kubik(EU marketing agency)
- **Pradeep Kumar** - International Strategy. international Business across Web3, IoT, and tech investment.

All six key team members, including core executives and advisors, have successfully **completed KYC verification** via CertiK, providing a foundation of trust and transparency for institutional partners.

8. Roadmap Highlights

- **2015–2023**:
  - Completed SmartGolf hardware R&D
  - Raised $400K via multiple crowdfunding
  - Secured endorsements from PGA professionals.

- **2024**:
  - Partnered with 5 schools in Houston
  - Presented at VivaTech (Paris) & Expand North Star (Dubai) as an activation partner.

- **2025**

  Q1: Participated in MWC 2025 (Barcelona) and PGA Show (Orlando) as an Inventor.

  Q2: Developed Web3 framework and released **SGi Whitepaper v1.0**.

  Q3:
  - Published **SmartGolf Token (SGi) smart contract** on Ethereum mainnet.
  - Launched **community onboarding** and 80K community members within 2 months
  - Completed **first DEX listing** and **expanded DEX presence**.
  - Released **dApp with Swing-based points NFT minting**.
  - Activated **DAO governance voting with SGi token**.
  - Completed **smart contract Audit** and **KYC by CertiK**
  - Received **legal opinion confirming utility token classification**
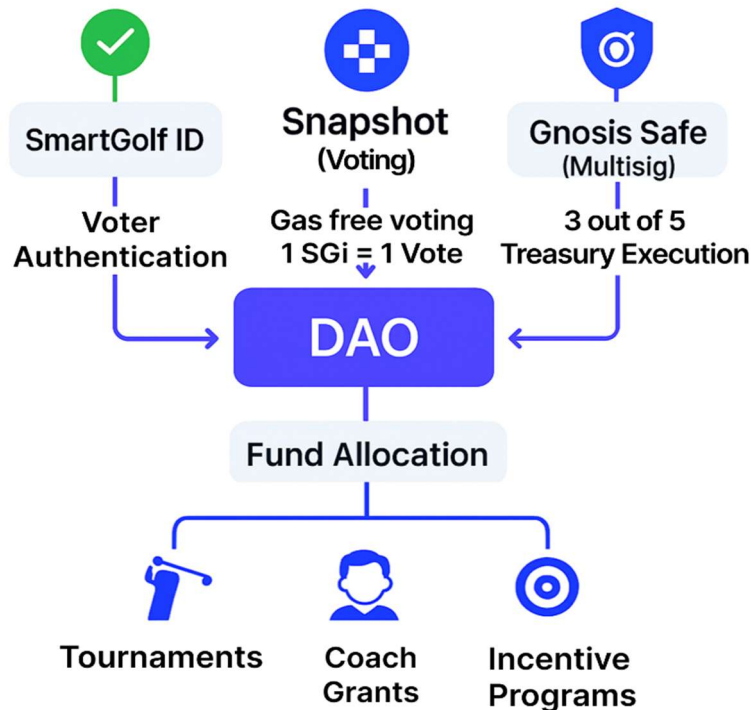 - Deployed **Multi-Sig Safe** to secure DAO treasury and ecosystem reserves.

  Q4*:*
  - Listing **CoinMarketCap, CoinGecko**
  - Upgraded **NFT swing minting utility**.

- **2026**

  Q1:
  - SGi listing on CoinStore, Dex-Trade
  - Rolled out **trading system integration in dApp**.
  - *Built pilot model of **SmartGolf Plaza**.*

9. Governance & DAO Structure

- **SGi Holders:** Participate in governance by voting on platform upgrades, tokenomics changes, tournament rules, and coach onboarding. Gas-free voting via Snapshot; 1 SGi = 1 vote, minimum 100 SGi to vote.)
- **DAO Identity (ENS):** The DAO is anchored by the ENS name **smartgolfdao.eth**, used across governance, communications, and verification.
- **Voting Platform (Snapshot):** Proposals are voted on through Snapshot (off-chain, gasless). Default settings: immediate start and 3-day voting period; parameters may evolve via governance.
- **Financial Management (Multi-Sig):** Treasury assets are secured in **Gnosis Safe multi-signature wallets** with separated **DAO Treasury (4-of-5)** and **Team Treasury (3-of-5)**. Signer roles include Founder, Core Developer, Investor representative, Advisor, and Team representative. Public treasury addresses are disclosed on the website and in the Governance repo.

- **Community Proposals:** In the initial phase, proposals are author-gated (core contributors). Community submission thresholds will open progressively via Snapshot strategies.

- **Voter Eligibility & Authentication:** Voting power is calculated from SGi balances (minimum 100 SGi; configurable). Eligibility can be complemented by SmartGolf ID for permissioned use cases.

- **Fund Allocation:** DAO funds are allocated to tournaments, coach onboarding grants, and community incentives based on governance votes. Additionally, 5% of all SGi wager-based transactions are automatically routed to the DAO treasury.

- **Spectator Participation:** Gallery users can engage by predicting match outcomes and cheering with tokens. Winning predictors earn token rewards; the rest supports DAO sustainability.

- **Transparency & Verification:** Governance artifacts, treasury links, and updates are maintained in the public GitHub. Snapshot **Verified DAO** status is in progress to strengthen external trust.

10. Token Burn & Supply Management

To ensure long-term value stability and align user incentives with ecosystem health, SGi adopts a hybrid token supply mechanism involving controlled token burns and capped minting:

10.1 Token Burn:

- A portion of tokens used for in-game betting fees, tournament entry fees, and SmartGolf virtual course purchases are automatically burned.
- This deflationary mechanism prevents oversupply and enhances the long-term value of the SGi token.

10.2 Controlled Minting:

- New SGi tokens may only be minted under DAO-approved scenarios with clear ecosystem value, such as:
    - Ecosystem expansion into new regions
    - Strategic partnerships or franchise deployments
    - Replenishment of reward pools (subject to DAO voting)
- To prevent inflation and ensure transparency:
    - All minting is subject to a hard cap and DAO governance procedures.
    - A post-deployment correction of 1,322,800 SGi was burned to resolve a minting discrepancy.
    - Current circulating supply is transparently tracked on-chain.
      See [Etherscan Burn Tx at GitHub log].

10.3 Treasury Reserve Policy:

As of **September 2025**, the following allocations have been successfully transferred into Multi-Sig controlled treasuries:

1. DAO Treasury: 0xf459f4Ed2caDEda1696a996002F0CEC301DF6E01 (30%) : SGi Reserve
2. Team Treasury: 0xd2c329a36fd13b9D27f6f17d61c1a5251B4203F5 (4.5%)
3. SGi Public sale: 0x514210b8D5C41C07A9f5144ea9bb481CDDCa477D (25%)
4. Ecosystem & Rewards: 00xAb5682B0a956eD50Ae8cdc77bb429D6226300241 (12%)
5. SGi Liquidity : 0xE50fF8195E2C3a3efFA48c065919cf0bde7C0623 (2%)

These figures represent the initial transfer into the Gnosis Safe system, separating DAO-controlled community funds from team operating reserves. Balances may evolve as ecosystem operations progress, but all changes remain transparently verifiable on-chain via Etherscan.

11. Risk Factors

11.1 Standard Web3 Risks:

- **Blockchain Volatility**

  As with any Web3 project, fluctuations in the blockchain market can impact token values.

- **Regulatory Uncertainty**

  While the regulatory landscape for cryptocurrencies is still evolving, SmartGolf Token (SGi) has been designed as a **Utility Token** rather than a Security Token. This ensures compliance with utility token regulations and minimizes risk exposure. Legal classification has been formally reviewed and confirmed by Law Firm.

- **Security Vulnerabilities**

  Risks related to wallet security and potential exploits of smart contracts remain prevalent. However, SmartGolf's smart contracts are upgradeable and regularly audited.

11.2 Specific Market Risks

- **Adoption Dependency**

  The success of SmartGolf depends on adoption by golfers, coaches, and the global golf community. Broad participation is essential to ecosystem scalability.

- **Seasonal or Weather-Related Variability**

  Although SmartGolf mitigates weather-related limitations, seasonal habits in real-world golf could still influence engagement patterns.

12. Conclusion

SmartGolf Token is built on real use, not empty promises. With PGA-proven devices, live users, and a functioning reward system, the platform already brings Web3 into everyday golf practice.

By turning swing data into meaningful digital value, SmartGolf connects physical performance with blockchain rewards in a way that is simple, secure, and scalable.

This creates a new kind of sports experience that motivates, verifies, and grows with its community.

More info:

🌐 Website: smartgolf.io

📲 Telegram: t.me/SmartGolfSGi

🐦 Twitter: @SmartGolfSGi

Ⓜ CoinMarketCap: https://coinmarketcap.com/currencies/smartgolftoken/

🦎 CoinGecko: https://www.coingecko.com/en/coins/smartgolftoken-sgi

🛡 CertiK: https://skynet.certik.com/projects/smartgolf

⏻ CoinStore: https://coinstore.com/spot/SGIUSDT

🐙 GitHub: https://github.com/SmartGolf/SmartGolfDAO

📰 CoinTelegraph: SmartGolf: AI × DePIN × RWA, redefining golf through the world's first Web3 golf ecosystem