Training Course on Developing Custom Agri-Tech Solutions and Apps

Professional Development Training Course Outline

Category	Agriculture	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

In today’s rapidly evolving digital era, agriculture is experiencing a transformative shift driven by innovative technologies. From precision farming to remote crop monitoring and real-time data analytics, the integration of mobile apps and custom agri-tech solutions is revolutionizing how farming is done Training Course on Developing Custom Agri-Tech Solutions and Apps is designed to equip participants with the technical skills and strategic insights necessary to conceptualize, develop, and deploy scalable agri-tech applications tailored to local agricultural challenges.

Participants will gain hands-on experience in agricultural app development, IoT integration, machine learning for smart farming, user interface design, and sustainability modeling. The curriculum aligns with global food security goals and embraces emerging technologies, ensuring that learners are future-ready and capable of fostering digital transformation across the agricultural sector.

Programme Curriculum

Training Course on Developing Custom Agri-Tech Solutions and Apps

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Course Objectives

1. Understand the digital transformation in agriculture.
2. Learn the basics of mobile app development for agri-tech solutions.
3. Explore AI and machine learning applications in precision farming.
4. Design user-friendly agri-tech interfaces and UX.
5. Integrate real-time data collection through IoT and sensors.
6. Develop GIS and satellite-based mapping features.
7. Use data analytics for smart agriculture decision-making.
8. Build cloud-based platforms for agricultural data storage.
9. Explore blockchain for agricultural supply chain transparency.
10. Prototype sustainable and climate-resilient agri-tech apps.
11. Understand API integration for cross-platform functionality.
12. Evaluate agri-tech user needs through design thinking.
13. Launch, market, and monetize custom agricultural technology solutions.

Target Audiences

1. Agri-tech entrepreneurs and start-up founders
2. Government agricultural extension officers
3. Software developers and IT professionals
4. Agribusiness consultants
5. Agricultural researchers and analysts
6. Farmers and farm cooperatives
7. Development and humanitarian organizations
8. University students in agriculture, ICT, and engineering

Course Duration: 10 days

Course Modules

Module 1: Introduction to Agri-Tech Ecosystem

- Overview of global agri-tech trends
- Importance of innovation in agriculture
- Market insights and opportunity mapping
- Key players and emerging markets
- Role of mobile and digital platforms
- **Case Study:** mFarm (Kenya) – Empowering farmers through pricing transparency

Module 2: Fundamentals of Mobile App Development

- Introduction to app development frameworks
- Android vs iOS: Choosing the right platform
- Front-end vs back-end basics
- Tools: Flutter, React Native, Firebase
- Wireframing and user flow planning
- **Case Study:** AgroStar (India) – Mobile retail agri-advisory app

Module 3: User-Centered Design in Agri-Tech

- Principles of UI/UX design
- Designing for low-literacy users

- Offline-first design strategies
- Language localization
- Usability testing tools
- **Case Study:** iCow (Kenya) – A mobile dairy farming advisor

Module 4: Internet of Things (IoT) in Agriculture

- Understanding IoT architecture
- Types of sensors and smart devices
- Connectivity (LoRa, NB-IoT, GSM)
- Data acquisition and transmission
- IoT security challenges
- **Case Study:** SmartFarmNet – Precision farming via IoT

Module 5: AI & Machine Learning in Smart Farming

- AI vs ML vs Deep Learning
- Crop disease prediction models
- Automated irrigation control
- Weather prediction systems
- ML model training with agricultural datasets
- **Case Study:** PEAT's Plantix App – AI-powered plant diagnosis

Module 6: GIS and Remote Sensing for Agri Apps

- Fundamentals of geospatial technology
- Satellite imaging integration
- GPS-based farm mapping
- Crop health monitoring via NDVI
- Spatial analytics and visualization
- **Case Study:** NASA Harvest – Global food monitoring platform

Module 7: Cloud Computing for Agri-Tech Platforms

- Overview of cloud services (AWS, GCP, Azure)
- Real-time syncing and data backup
- Building scalable back-end systems
- Cloud security and privacy
- Hosting APIs and dashboards
- **Case Study:** Climate FieldView – Scalable climate data on cloud

Module 8: Agri-Tech Data Analytics and BI

- Agricultural data types and sources
- Building dashboards with Power BI/Tableau
- KPIs in digital agriculture
- Predictive analytics for yields and risks
- Data ethics and ownership
- **Case Study:** Hello Tractor – Data-driven tractor optimization

Module 9: Blockchain for Agricultural Traceability

- Basics of blockchain technology
- Smart contracts in agribusiness
- Farm-to-fork tracking systems
- Digital ledgers for cooperatives

- Security and immutability benefits
- **Case Study:** AgUnity – Blockchain-based farmer identity app

Module 10: Agri E-Commerce and Digital Marketplaces

- Building digital markets for farmers
- Payment integration and digital wallets
- Logistics and fulfillment APIs
- Product catalog and price automation
- Reviews, ratings, and feedback loops
- **Case Study:** Twiga Foods – B2B agri-supply chain digitization

Module 11: Climate-Smart Agriculture Tech

- Tech solutions for water-saving irrigation
- Forecast-based early warning systems
- Crop diversification support tools
- Decision-support systems for climate resilience
- Green tech innovation in agri-apps
- **Case Study:** SEMA – Smart Early Warning System for farmers

Module 12: Cross-Platform Integration and APIs

- RESTful API development
- Integrating third-party services
- SMS/USSD gateway integration
- Farm management systems (FMS) compatibility
- Testing and debugging API interactions
- **Case Study:** DigiFarm (Safaricom) – Multi-platform integration for services

Module 13: Monitoring and Evaluation of Agri-Tech Impact

- Creating M&E frameworks for apps
- Performance indicators for adoption
- Feedback mechanisms from users
- Iterative design using M&E insights
- Reporting dashboards and alerts
- **Case Study:** FarmDrive – Measuring financial inclusion impact

Module 14: Legal, Ethical & Policy Issues in Agri-Tech

- Data protection laws in agriculture
- Digital rights and consent in rural areas
- Policies affecting tech innovation
- Intellectual property for app developers
- Building ethical AI for agriculture
- **Case Study:** GDPR compliance in EU-based agri-apps

Module 15: Launch, Scale & Monetize Your Agri-Tech App

- MVP creation and pilot testing
- Go-to-market strategies
- Monetization models (freemium, subscription)
- Growth hacking and marketing channels
- Fundraising from agri-tech investors
- **Case Study:** Tulaa – Scaling agri-fintech solutions across Africa

Training Methodology

- Interactive workshops with real-time coding labs
- Group-based problem solving and app prototyping
- Guest lectures from agri-tech founders and engineers
- Use of simulation tools and data visualization platforms
- Guided case study discussions and impact assessments
- Continuous peer-to-peer learning through feedback and critique

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

Ready to enroll or request a customized program? Book online or contact us:

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