NFC Introduction Training

by the #1 semiconductor company in identification technologies and the co-inventor of NFC

Near Field Communication technology opens new business opportunities in a very large number of application areas. Payments, access control, secure identification, gaming and entertainment, social interaction, advertising, shopping experience, are just a few examples.

How can you take advantage of the NFC opportunity and how does this fit your needs and markets?

This 2 day introduction course will help you to understand the basics of this technology, the applications, uses cases, security and key actors in the ecosystem.

Who should attend?

➢ Marketing and Technical Managers
➢ Business Development Managers
➢ Program and Product Managers
➢ Senior & Junior Engineers

Contact information

Training program delivered by:

MobileKnowledge

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What will you learn?

➢ You will discover the potential of NFC technology by learning how it works. You will also learn which are the most relevant use cases and applications, and how to make use of NFC to attain your business objectives.

➢ You will understand the NFC standards, the Secure Element functionalities, the TSM roles and architectures, the key Global Platform, MIFARE4Mobile and EMVCo requirements and specifications.

➢ You will learn the different NFC modes of operation, the architecture of the mobile phone with NFC functionality, the different NFC tags and how to work with them, and the essential concepts of security and privacy.

N1 – Introduction to NFC (I)

Introducing NFC technology through a market, ecosystem and applications review, and the 3 NFC operation modes.

➢	**NXP Introduction**	An introduction to the NXP Semiconductors and the NXP m-Knowledge Center activities.
➢	**What is NFC?**	Definition of NFC. Convenience and growth potential linked to mobile devices. Connection of physical and virtual worlds. NFC comparison with other connectivity technologies.
➢	**Market status**	Latest Mobile / NFC Market status and trends. Future evolution and market growth drivers.
➢	**Ecosystem**	What is the NFC Business Ecosystem. Who are the key NFC stakeholders and their roles.
➢	**Modes of operation**	From traditional contactless scenario to NFC. Introduction to NFC operation modes. Communication mechanisms. NFC Forum introduction
➢	**Card Emulation mode**	Definition and benefits of NFC Card emulation. RF Standards and specifications. NFC Forum specifications and protocol stack. New stakeholders and challenges.
➢	**Read / Write mode**	Definition. Standards. Proprietary and non-proprietary applications. NDEF applications.
➢	**Peer-to-peer mode**	P2P mode definition. Communication modes. Generic use cases. Architecture. Examples of P2P applications in mobile phones.
➢	**Standards & Specs**	Comprehensive review of all existing standards related to NFC technology. ISO 18092, ISO21481, ISO14443A/B, FeliCa, ISO15693, Global Platform, EMVco.
➢	**Use cases & Applications**	Categorization of existing NFC use cases. Application examples.

N2 – Introduction to NFC (II)

Showing NFC's key element insights from a comprehensive perspective for non-experts.

➢	**Key Components in an NFC system & Phone architecture**	NFC Controller, Secure Element, Antenna, Contactless readers, NFC Software Stack. Key HW and SW blocks of a smart phone. Tags
➢	**Tags**	NFC Tags, NFC Forum Tags type 1-2-3-4. Use cases and **Practical Workshop.**
➢	**Trusted Service Manager**	What is a TSM. Split architecture SP-TSM and SE-TSM (MNO-TSM). Basic roles, deployment and configuration models. Trust provisioning.
➢	**Secure Element**	Embedded, UICC, microSD. Certification requirements. GlobalPlatform specifications. SE in the Phone architecture, interfaces.
➢	**MIFARE4Mobile**	What is MIFARE4Mobile, the MIFARE4Mobile Industry group. Architecture v1.0 and v2.0. Concept of virtual cards.
➢	**Mobile OS**	Market and Mobile OS Systems review. NFC integration in Android. Overview of the Android development environment and Android NFC SW stack. Windows Mobile 8 and Blackberry.
➢	**Security & Privacy**	Key security concepts. General introduction about vulnerabilities, attacks and countermeasures. Myth-busters.
➢	**Mobile Wallet**	What is a mobile wallet, advantages, architecture, Google and ISIS cases.