# Fast Asynchronous NFC Based Tourist Knowledge System

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**ABSTRACT**: To locate and Find out the accurate information of a Tourist Spot is key component to establish a successful Tourist information, NFC tap and know Enables user to get general information on phone by just hit. If user is tourist the hit and know gives Detail information of all tourist spot .If user Doesn't get address just hit and get information of address. Get Tourist information in TTS . NFC allows for the transfer of data such as text or numbers between two NFC enabled devices. NFC tags, for example stickers or wristbands, contain small microchips with little aerials which can store a small amount of information for transfer to another NFC device, such as a NFC TAG phone . In tap hit know we use NFC communications NFC tag is small Tag which capable of holding information just like floppy .We Store and retrieve information by using this technique.

**KEYWORDS**: NFC (Near Field Communication)

## I. INTRODUCTION

NFC is a standard-based , short-range wireless connectivity technology that enables simple and intuitive two-way interaction between electronic devices . NFC is used in the context of transport ticketing in gateless systems to enable a simple start-up program . Other trials have added retail contactless Payments cards to the ticketing options.The phone can tap a reader to redeem that ticket and gain access .NFC-enabled phones have great benefits over paper tickets.NFC-enabled phones can hold multiple Payment applications , allowing the traveller to select which method to use-credit , debit. NFC card emulation—enables NFC-enabled devices such as smartphones to act like smart cards, allowing users to perform transactions such as payment or ticketing.NFC reader/writer—enables NFC-enabled devices to read information stored on inexpensive NFC tags embedded in labels or smart posters. NFC peer-to-peer—enables two NFC-enabled devices to communicate with each other to exchange information in an adhoc fashion.

## II. RELATED WORK

The aim of our research is to find out how NFC technology could enhance User Experience (UX) in the museums. We assumed that the larger display and the many functions of current smartphones really enhanced the possibility to deliver to the users multimedia, social, and customized contents that really enrich the visit at the museum.
In reflecting on NFC technology use in museums and designing the mobile guide system, we started from previous studies about NFC technology strengths and best use practices.

Some studies, support our choice to place smart posters near the collection items to deliver multimedia contents to users in a *pleasant, convenient, and easy way*, allowing the user to get more information than what the eyes can see on a poster paper.
Following are some studies illustrating the advantages of NFC applied to everyday activities, and specifically to touristic environments. Firstly, since NFC is based on the touching interaction method, mobile applications integrating

this technology might turn out intuitive, error resistant, reliable, and enjoyable. In fact, by simply touching an augmented object (i.e. the smart poster placed next to the work of art), the user obtains additional information and services. Moreover, it does not request to concentrate on "how to use", so that the user can think only to his/her main task . The immediacy of feedback from the system pays the user back for the initial effort of learning a new type of interaction method and encourages the frequent use. Intuitiveness is identified in as a consequence of the user interaction model for NFC enabled applications. In fact, as a consequence of *transformation* process, according to which mobile devices interaction system may rely *on a user's pre-existing cognitive model of the objects with which they are interacting*, the NFC enabled mobile device takes on the property and context of the *scanned* object the user is familiar with, e.g. a touristic guide. Moreover, considering the key elements identified by Jetter and Gerken in their simplified model of User Experience (first of all usability, usefulness, and joy of use), NFC based mobile applications can enhance the user experience at the museum. A practical example can be found at [1], in which results from a user study on a mobile museum guide confirm that people in the context of a museum (even if simulated) prefer the touching interaction method.

### III. METHODOLOGY

The current work used Nearest Field  Communications to get  mobile nodes and creates Energy efficient architecture for tourist app. At initial stage when nfc nodes enter into sensor range, the nfc send signal and wait for response. As response arrived from receiver nfc  tag, then algorithm measure NFC data and convert them into readable Format. From available data,. The proposed system can proceed through following steps :

A.       Read write  NFC Tag
B.       Book  Ambulance
C.       Book  Taxi

### A. READ WRITE  NFC TAG :
We will focus our attention on **NDEF** data that is a special type of NFC tag. There are some basic steps we have to follow to read and write NFC  TAGS. Android NFC Tag, the first thing we want is our app is notified when we get near a NFC tag. To this purpose we use a intent filter.

### B.BOOK  AMBULANCE
After reading  and writing  of NFC tag  we can  book  ambulance  automatically  by  using  location  of  the NFC  tag

### C. BOOK  TAXI
After reading  and writing  of NFC tag  we can  book  taxi  automatically  by  using  location  of  the NFC  tag.
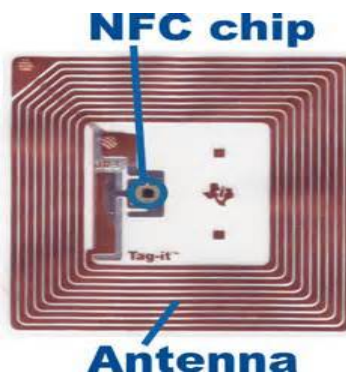
### D.MOBILE APPLICATION: FEATURES DESCRIPTION:

Since its experimental nature, the Wolfsoniana Smart Museum mobile application will cover only an accurately selected part of the Wolfsoniana Museum collection. For the first release, the multimedia mobile guide is intended to be available for 11 works of art: 6 addressed to adults, 3 addressed to children, and 2 addressed to both. A smart poster will be placed next to every *tagged* work. We imagine the standard interaction with the system as follows: using the mobile application the visitor will scan the QR Code or will touch with the NFC-enabled mobile the RFID tag placed under the NFC symbol on the smart poster. By doing this, he/she will visualize the multimedia description of the work of art on the display of his/her mobile. Moreover he/she will be able to access to a social area where he/she will be able to leave a comment, see the comments of the other visitors or express his/her appreciation towards the work. The visitor will be able to download on his/her own smartphone the mobile application available on the app store (Google Play Store and Apple Store) by scanning the RFID tag or the QR Code from an explanatory smart poster placed at the entrance of the museum. Otherwise, some smartphones with the mobile app preinstalled will be available at the museum for the duration of the visit. The mobile application will track the number of the tagged works of art the visitor has already scanned and visualizes this information on a map, as a reminder for the user. Lastly, through a smart poster placed at the end of the visit.
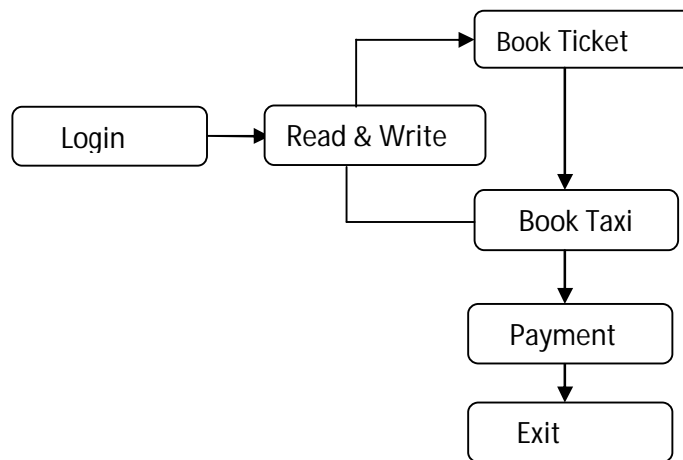
## IV.SYSTEM OVERVIEW



Fig1.SystemOverview

## IV. SIMULATION RESULTS



As show in Fig2 The Screenshot of NFC Login Page is shown User needs to fill in the details in order to get access to an application. After geetingccess the appltion the nex page opns as shown in Fig3.
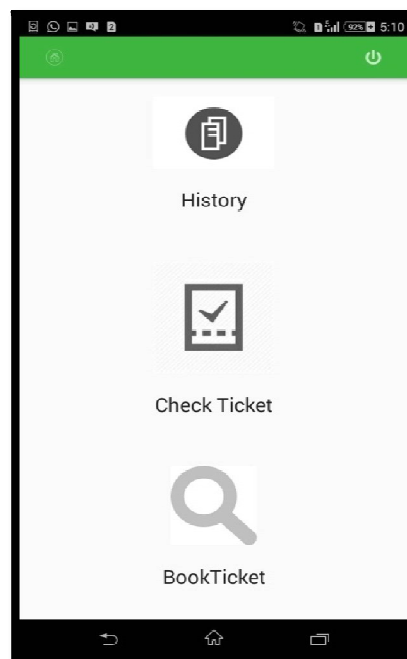


Fig3 Modules of NFC App.

In the above Fig3 various modules of NFC are provided. User need to select the options in order to access the services. The History options show the history of tickets booked in past by user.

Check ticket show the current tickets booked for particular route along with date and time.

The Book Ticket option provides user to book ticket by tapping the Smartphone on the NFC board available on bus. As soon asthe user taps on the NFC board available on the bus the route on which the bus is ruuning will get available to the user on Users smart phone screen.

## V. CONCLUSION AND FUTURE WORK

By letting the NFC controller do the heavy lifting for you, the designer can reach market readiness much faster. Keep in mind that even if the cost of the NFC controller hurts in the pilot/proof-of-concept phase, once the true scope of NFC functionality is determined, the true complexity of the firmware needed for a simple reader chip can be more clearly defined. Forexample, if your application uses a UID only system, whereby the UID of the tag is the only piece of information needed, then using a controller to start simplifies the prototype, and if your product gains traction in the market migrating to a less expensive reader chip solution is not too painful since only the UID detection procedure needs to be implemented, something that can be budgeted and even outsourced when a product is being taken from beta stage to market.

The first one concerned the *switching between NFC and QR Code modes*: this task was successfully performed only by 6 out of 10 users and required a long time to be completed. The cause was that the QR Code icon in the title bar was too small and not clear. The second problem concerned the *reading of a second RFID tag after the first*: if the user is watching a multimedia content, such as a video or an image, completing the task requires too many actions, because the navigation had been extended too in-depth. Therefore the user had to pass back through 2 or 3 levels before returning at the NFC reading mode screen. Lastly, although the RFID tag was readable from any mobile application screen (Fast Switch function), the tests proved that users preferred a single clear *NFC reading mode screen* to properly use this function. Minor problems: finding the map and the audio function, contents length (not all users scrolled the page to display all the available contents), and icons look.

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