Project Proposal

Project Title: Exploring the world with NFC, Android and augmented reality

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# Introduction and Rationale

## Topic Area

* NFC
* Android
* Augmented Reality
* Geo-location

## Aim

In this project I aim to produce an Android application that utilises combined NFC and augmented reality tags to produce information on an object. These tags would be placed at points of interest across the world (in zoos, national landmarks, across a city). When scanned with the user’s device, the tag would download that objects data into the app. It would then start the camera and overlay numbers onto the object which would correspond to snippets of information about that object.

Below is a simple mock-up example of how the application could look:

In this case we are using the app to look at a particularly interesting cone.

|  |  |
| --- | --- |
| D:\Coursework\Computing Project\Poi\docs\res\augdraftwithout.png | D:\Coursework\Computing Project\Poi\docs\res\augdraftwith.png |
| Without Augmented Reality - *fig.1* | With Augmented Reality - *fig.2* |
|  |  |

In *fig.2* we can see the augmented reality in action. The location of the numbers would be based off of the position of the tag (the P with the NFC logo).

There will also be a server application that the Android app would connect to in order to download the object information and upload new information.

## Objectives

The application should be able to:

1. Look up object information by NFC tag
2. Work without NFC (using geo-location to find objects)
3. Allow for the creation, deletion and updating of tags
4. Show numbers on screen in 3D space using augmented reality technology
5. Give a fluid user experience
6. Be easy to use (usable without instruction)

The server should be able to:

1. Take insert requests
2. Take delete requests
3. Take select requests
4. Take update requests

# Background Review

# Methodology and Resources

# Project Plan

# References and Bibliography