ABSTRACT
In this paper, we argue that mischief and naughtiness are important parts of the playful activities we engage in as part of our daily lives. Mobile devices, being intimate and personal objects that we take everywhere, already act as co-conspirators with whom individuals can share moments of social mischief. However, rather than being simply the medium for mischief, we propose that we can create applications that are specifically designed to allow the user to engage in mischievous or naughty behaviour. We describe two applications that enable mischievous forms of play in two different social contexts: international airports and academic conferences.

Categories and Subject Descriptors
K.8.0 [Personal Computing]: General – Games

General Terms
Design, Human Factors

Keywords
Naughtiness, mischief, playfulness, games, pervasive games, airport, conference.

1. INTRODUCTION
Play and playfulness are a key part of our everyday lives. Naughtiness, or acts that break social conventions and implicit rules about what is acceptable in normal social behaviour, are an important aspect of this playfulness. Indeed, misbehaviour is a normal feature of living and working in social groups [1]. It is frequently used to highlight disagreements with authority in ways that sidestep the traditional process of dealing with social issues. The phenomenon is visible at all levels of society, from challenging government policies (e.g. the reaction of Twitter users to a terrorism charge [2]) to internal corporate disputes over working practices [1].

Mischief does not even need a higher goal; there is intrinsic fun in flaunting conventions with small acts of anti-social behaviour and “getting away with it”. When transgressions are discovered, provided the actions didn’t cause any genuine harm, the consequences typically are trivial. The naughty person is accused of being childish or immature - a small price to pay for the joy of breaking the rules.

Mischief and naughtiness are not restricted to our everyday ‘real world’ lives. As there are social rules and norms for behaviour in virtual communities that are mediated by online games, there exist opportunities to break those rules. This leads to a phenomenon known as “playful misconduct” within online games [3].

1.1 The Mobile Device as a Collaborator
As mobile devices are already deeply embedded in our daily social lives, they too, have become agents for mischief (e.g. [7]). However, mobile devices add another dimension of possibilities for mischief making because of the personal intimacy of the technology itself.

Mischief and naughtiness is reliant on the presence of social conventions that can be transgressed. The joy inherent in such activities comes from pushing the boundaries of what is acceptable, in the full knowledge that you will be forgiven. We argue that such mischievous behaviour is more fun with a collaborator – someone with whom you can share the fun of playing with the social rules. They can be simply an audience for the activity, or be actively involved in the mischief itself. In cases where the user is alone, we propose that even a mobile device can make an ideal collaborator or co-conspirator. Mobile devices are discreet, ever-present and can be relied on not to “give the game away” - at least, as long as the police don’t get involved; in which case they will sing like a canary [4]. In short, for minor acts of harmless social mischief they are the perfect partners.

2. Mischief in the Wild
As part of our explorations in mischievous behaviours in HCI, we have developed a number of applications that rely on naughtiness as a source of fun for players with mobile devices.

2.1 Blowtooth
Despite being one of the most secure environments that a free citizen will ever experience, with special rules and procedures, airports are also one of the most boring places we encounter in our normal lives. Forced to arrive several hours before travelling, people are left with huge amounts of free time and limited options for filling it.

Blowtooth is a mobile, pervasive game that is designed to be played by travellers at international airports (for more details and evaluation see [5]). Players start the game before checking in for a flight, and use their phone to drop virtual drugs on fellow passengers. Once those passengers get through the airport security procedures, the challenge for the player is to find them again in order to retrieve the hidden contraband.

Blowtooth is a highly mischievous game that is played in one of the most secure environments ordinary people encounter. It was born out of a sense of frustration and exasperation that the average traveller feels when subjected to a typical airport experience. The game draws attention to the often needless, inconsistent and discourteous levels of scrutiny that law-abiding travellers are put through merely to board an airplane to get to our holiday or business destination. The game allows the player to poke fun at these security procedures. The act of concealing something, even in make-believe, and getting past security allows the player to regain a feeling of power in the security-traveller relationship.
In a short pilot study, described and analysed in [4], players responded very positively to Blowtooth. Despite playing the game in real airport security, players did not report feeling anxious or concerned about their safety or the legality of their activities, rather reporting that the game was fun and provided something to do during the monotonous hours spent waiting at the airport. Indeed, players were very aware that what they were engaging in was just a game and reported both being conscious of adapting their behaviour due to game play and being more conscious of important features of the airport environment than on previous trips to the airport.

Although genuine abuse is a concern, the tagging is arbitrary and scatter-shot. Players are unable to tag individuals, so personal insults are ineffective. Even if a player intends to insult an individual, there is no guarantee that their device has been detected or is indeed within range.

Similarly, it is hoped that when a non-player becomes aware of the game and checks to see what tags they have been given, they will appreciate the playfulness and innocent intent of the application. We hope that the worst situation will be for the application to be dismissed as childish and immature (which it is, but it is still fun!).

Since the game is effectively multi-player, it allows the players to be a part of a shared but secret experience at the expense of the unaware majority. Much like other games that are “hidden in plain sight”, such as Geocaching [6], the game can give players the thrill of being some kind of spy or a member of a secret society.

There is also no requirement that the game be played in an academic setting – there is nothing to prevent users playing the game in their daily lives, tagging every person they come into contact with. However, we believe that locating the game in a fairly enclosed, but public, environment increases the chance of having other co-located players active in the game, so players more frequently encounter tags left by others. This adds an additional dimension of fun for being part of a shared and mischievous activity.

The results of the pilot study to be performed at MobileHCI will hopefully be reported at the conference next year.

## 2.2 Feckr

Feckr is a new mobile application designed to offer conference attendees a playful and naughty experience that breaks the social rules that are expected in a professional and academic environment. This application will be launched and trailed during the MobileHCI conference 2010 for a live demonstration of mischief and naughtiness in a serious academic setting.

When installed on an Android device, a player can decide at any moment during the conference to “tag” all nearby people with any message. Perhaps if not enjoying a talk, the player could tag everyone as “ethnography sucks!” When witnessing the rush to be first to the buffet during the coffee break, they could tag “hungry hungry hippos!”

Technically, the game, like Blowtooth, uses the Bluetooth capabilities of phones to scan for other nearby devices and uses them as surrogates for people nearby. Each time a Bluetooth device is detected, the game checks with a database to find any tags associated with that device. When creating a new tag, the game contacts a server to store that tag along with the list of locally detected Bluetooth devices.

Tags are anonymous, stored centrally, and permanently, so that on a later day at the conference, a player could view the tags associated with everyone nearby. The game collates all the tags created by all players so people can discover the opinions that everyone holds about the conference attendees (including themselves!) at any time.

Tags persist over time, so even at future conferences, some attendees will be wandering around with these virtual insults associated with their mobile device, allowing future players to see a trail of mockery spreading back through their academic career.

Applications designed to be naughty and mischievous should encourage users to flirt with this line and play with social rules and conventions, but the application should make the limits implicitly or explicitly clear and not become itself the justification for abusive behaviour.

In the example of Feckr, by design there is no functionality to allow users to tag individuals – tagging is purely collective amongst everybody in a local space. This prevents users from using specific and personal insults, and also implicitly draws the line for the user about what is acceptable behaviour with the application.

In Blowtooth, nothing illegal happens during the course of the game, and nothing happens which may cause airport security to become involved. Blowtooth is strictly virtual, and the line is carefully drawn between what pushes social norms, but is still acceptable in airport security (i.e. playing a virtual game about smuggling) and what is unacceptable (impacting the work of the security staff).

While each individual is ultimately responsible for their own actions, applications designed to use naughtiness and mischief...
need to be clear about what they imply are acceptable usage behaviours, and should not legitimise or encourage any activities which result in genuine harm (physical, mental or to property). Just like a co-conspirator in the real world, the mobile device can support mischief, but if you get caught, you are facing the consequences on your own.

4. DISCUSSION
In this paper, we have argued that naughty and mischievous behaviours are an important part of the playful experiences that we engage in as humans. Exploiting these behaviours, rather than dismissing or disregarding them, offers great opportunities for mobile HCI to support fun activities.

Since mischievous activity is generally more fun when shared with other people, we suggest that mobile devices could take the role of collaborators or co-conspirators in this mischief, acting as someone with whom you can share the joke, even when you are physically alone.

We have shown a number of examples of real mobile HCI applications that take advantage of mischief and naughtiness as a standard mode of operation, and result in playful and engaging experiences. We argue that naughtiness and mischief are absolutely valid behaviours in a mobile HCI context, just as they are in everyday life. Although there are risks and dangers associated with supporting users in bending social rules, the opportunities for novel and exciting applications are clear.

5. REFERENCES
[2] Chambers, P. 2010, My tweet was silly, but the police reaction was absurd, The Guardian, 11th May 2010