

# Email and Misinformation: A South African Case Study

**Laurette Pretorius and Andries Barnard**  
**University of South Africa, Pretoria, South Africa**

[pretol@unisa.ac.za](mailto:pretol@unisa.ac.za) [barnaa@unisa.ac.za](mailto:barnaa@unisa.ac.za)

## Abstract

This paper considers insights and lessons learnt surrounding the spread of misinformation resulting from a hoax email sent in South Africa on September 11, 2001. That email purported to link South Africans to the World Trade Center disaster in New York on 9/11. This paper discusses a case study based on the South African newspaper press coverage this incident received. The factual contents are provided in the form of a time line, followed by the grouping of stakeholders and a list of stakeholder comments of an ethical, social, or legal nature. Subsequently, the paper explores various ethical perspectives, employs different approaches to ethical analysis, and reaches an ethical conclusion regarding this incident. This is followed by a brief investigation of the perceived divergence of the ethical and legal perspectives. The paper concludes by expressing the hope that this case study, and the analysis thereof, will assist computing instructors in sensitizing their students to computer ethics issues related to misinformation, the use of email and the Internet.

**Keywords:** Misinformation, hoax email, computer ethics, South Africa, computer ethics teaching, case study

## Introduction

On September 11 2001, eight hours after the terrorist attacks on the World Trade Center and Pentagon, two South African brothers, Willem and Christiaan Conradie, allegedly fabricated and distributed the following email message (Damon, 2001a):

**Title:** CNN News flash 4255/11/09/200/23h15 (sic)

**Verbatim extracts:** *'The US Secretary of State, Colin Powell, revealed late last night that there is a strong possibility that South Africans and possibly the South African government might be involved ... Video footage from the airports revealed that at least three South Africans boarded each fatal plane. The subject is still under investigation, but sources believe that it has a strong link to the recent US boikot (sic) of the racism conference held in the South African city of Durban. CNN information sources disclose (sic) that some of the masterminds might be in hideaway in South Africa. Strong links has (sic) also been made between SA and Lybia (sic).'*

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It was reported by the South African (SA) newspaper media that this email had significant national, international, and financial repercussions and influenced relations between the United States (US) and the SA governments at a difficult time in the history of the

US. It reportedly resulted in the decline of the SA currency and had a negative effect on the Johannesburg Stock Exchange (“Bolandse broers”, 2001; Coetzee, 2001; Damon, 2001a; Momberg, 2001). The Conradie brothers, allegedly responsible for the creation and dissemination of the email, were charged with sabotage and fraud, but eventually all charges against them were dropped.

This paper presents the details of the incident in the form of a **case study as reported by various SA newspapers**, in particular Beeld, Burger, Business Day, Cape Argus, Cape Times, Citizen, Pretoria News, Rapport, Sowetan, and Star.

In Barnard, De Ridder, and Pretorius (2001), we argued for the use of case studies in teaching computer ethics. Case studies present instructors with a powerful pedagogical method to, apart from sensitizing students to ethical and social concerns of computing, contribute to the development of critical reasoning and analytical skills (Gotterbarn & Riser, 1997). Furthermore, we agree with Spinello (2003, p. xiii) that *‘the case study remains a popular instrument to provoke students to grapple with complicated moral problems and quandaries. Cases present such problems in a particular context ...’* The hoax email case study that took place in a SA context is presented in this paper together with a discussion thereof, and we contend that this multifaceted case study can be put to good use by computing instructors in the teaching of computer ethics issues, such as the power of the Internet, ethical issues of Internet conduct, law and security, to their students.

The case study is presented in the form of a timeline of the newspaper coverage in order to convey the unfolding of the sequence of events. This presentation consists of three sections. Firstly we present the factual contents of the **newspaper reports** and secondly we identify the various stakeholders. Thirdly the ethical, social, and legal comments of these stakeholders are also discussed as we believe that this already suggests the **misinformation created by the hoax email**.

Subsequently we analyze the case study from various perspectives. We take a closer look at the reported perceptions of the different stakeholders and we consider various aspects of appropriate ethical analyses. We also briefly investigate why the ethical and legal perspectives and conclusions turned out to be in conflict and finally conclude with a short discussion of some recent initiatives regarding computer ethics in SA.

## The Case Study

### ***Relevant Facts Presented in the Press Coverage***

#### **Details - A timeline**

In order to convey the unfolding of the sequence of events pertaining to the hoax email, extracts of the press coverage are presented in chronological order. We are of the opinion that this best illustrates the emotional incitement of the press coverage that was followed by the anti-climatic outcome. Note that the first reports in the printed media pertaining to this incident appeared on September 14, 2001, three days after the event transpired. The main events of this timeline are summarized in Table 1.

#### **September 14, 2001**

The first media reports concerning the distribution of a CNN news flash email implicating the SA government in the September 11 terrorist attacks on the US, appeared in the SA newspaper press (Momberg, 2001; Mulder, 2001). The email message claimed that airport video footage revealed that at least three SA citizens boarded each of the four hijacked aircrafts (Mulder, 2001). It was also claimed that the SA government was aware of the fact that the masterminds behind the attacks were hiding in SA, and that tangible evidence suggested direct involvement of the SA and Libyan governments, linking them to these terrorist attacks (Momberg, 2001). According to the

fabricated CNN newsflash, Colin Powell, US secretary of state, indicated that the SA government might have been involved in the attacks on the US (Mulder, 2001) and that the FBI was in the process of obtaining several search warrants in order to search properties on SA soil (Mulder, 2001).

As a result of the wide-spread dissemination and media coverage concerning the email message, it was reported that financial analysts stated that not only did the email contribute to the unprecedented depreciation of the SA currency (the rand) in relation to the US dollar and British sterling, but Sapa-INet-Bridge also reported that it led to *'panic trading'* on the Johannesburg Stock Exchange (Momborg, 2001).

Both the SA and US governments dismissed the email as a *'hoax'*, and CNN denied involvement in the creation and distribution of said email (Momborg, 2001; Mulder, 2001). SA spokesperson for the National Directorate of Public Prosecution, Siphon Ngwema, stated that the US intelligence agencies confirmed that no such statement is true, and CNN spokesperson, Ceema Alibhai, said that no such broadcast was distributed by the corporation (Momborg, 2001).

### **September 17, 2001**

*'After two days of intensive computer-based investigations, National Intelligence Agency (NIA) operatives and police had their men, two Stellenbosch brothers, specializing in IT'* (Banda, 2001). The Conradie brothers, Willem (26) and Christiaan (35) were arrested on Friday night, September 14, in connection with the alleged creation of a hoax email. It is reported that Willem Conradie is employed as a computer programmer by Sanlam, a large insurance company (*"Bolandse broers"*, 2001; Coetzee, 2001; Hills, 2001). According to the SA Police Services head, Commissioner Joseph Ngobeni, they were charged with fraud and are to appear in court on September 17 (Banda, 2001; *"Bolandse broers"*, 2001; Coetzee, 2001; Damon, 2001a; Hills, 2001; Lekota, 2001).

Lekota (2001) reported that *'One of the men apparently confessed to police that his brother had come up with the message and that he had only made some additions to it. He also said that the message was meant to be a joke'*. It was reportedly sent to six colleagues at Sanlam, subsequently forwarded to several major corporations and financial institutions in SA, including the Reserve Bank, and soon reached the US city of Atlanta. It was also posted on the Internet (Banda, 2001; Coetzee, 2001; Damon, 2001a).

The director-general of the Department of Intelligence, Vusi Mavimbela, disclosed that shortly after intelligence agents discovered the email he was contacted by the Reserve Bank and the finance minister, Trevor Manuel who expressed their concern. He furthermore reported that the brothers had changed their upstream Internet service provider after intelligence agents contacted Willem Conradie (Banda, 2001).

US State Department spokesperson Richard Boucher said that the CNN news flash was *'utterly and totally wrong'* (Damon, 2001a). Government Communication and Information Services spokesperson Joel Netshitenzhe confirmed that SA intelligence agencies are in contact with their colleagues in the US, offering full assistance (Hills, 2001).

### **September 18, 2001**

The Conradie brothers appeared in court on September 17 on charges of sabotage and fraud (*"Brothers appear"*, 2001; Cook, 2001; Damon, 2001b, 2001c; *"Firma oorweeg"*, 2001; Nieuwenhuizen, 2001a, 2001b; Van Hees, 2001). Magistrate Jerome Koeries denied the bail application posted on September 17 (Van Hees, 2001), and remanded the brothers in custody for a further two days when it was expected that a second application for bail would be lodged (Nieuwenhuizen, 2001a, 2001b).

*'Due to the high profile of the incident, the local Directorate of Public Prosecutions dispatched senior advocates Susan Galloway and Rodney de Kock to oppose the bail application, launched by defence counsel Jasper Tredoux' (Van Hees, 2001).*

In the hearing before Koeries, defense counsel Jasper Tredoux argued that the brothers be released on bail as they have no prior criminal records and that the email message was intended as a joke. Due to work requirements, a request was submitted that the brothers be allowed limited access to computing technology. He furthermore argued that Christiaan Conradie was scheduled to complete the outstanding final year papers for the MBA degree soon, and required access to his laptop computer (Damon, 2001c; Van Hees, 2001). State prosecutor, senior advocate Susan Galloway, opposed this request and argued that both brothers have extensive computing technology experience, and may attempt to destroy valuable evidence, in addition they should not be allowed access to the Internet ("Brothers appear", 2001; Damon, 2001c). Galloway further argued that the forensic section of the SA Police Services required a further period of seven days to investigate the cyber-tracks of the disseminated email message (Nieuwenhuizen, 2001a), and that the state intended to pursue the link between the hoax email message and the reported negative impact thereof on the SA economy. She therefore required sufficient time to prepare evidence in this regard (Cook, 2001; Damon, 2001c; Nieuwenhuizen, 2001a, 2001b).

It was reported that both brothers are graduates of the University of Stellenbosch ("Brothers appear", 2001). Willem Conradie has been in the employment of Sanlam as a computer programmer for a period of five years. It has been purported that the hoax email message originated from Sanlam, and that he allegedly used the computing facilities provided by Sanlam to create and disseminate said email message (Cook, 2001), which resulted in widespread misinformation. He has been suspended from his post as information technology specialist pending the outcome of police investigations and an in-house disciplinary hearing ("Brothers appear", 2001). Christiaan Conradie is a director of TF Designs, a mechanical engineering design house and, as resident project manager, heads up and is responsible for the control and management of two multimillion-rand projects. The executive management of TF Designs has since distanced itself from Christiaan Conradie's actions ("Firma oorweeg", 2001). Adept Internet, the Internet service provider company of TF Designs, stated that it had already supplied the police with all email statements concerning the account ("Firma oorweeg", 2001).

#### **September 19, 2001**

It was reported ("Sabotage", 2001) that though Internet based media, including email, have greatly enhanced global communications and information dissemination in general, it has also brought with it a myriad of problems mainly related to control and irresponsible use, as is aptly demonstrated by the hoax email and the subsequent spread of misinformation. The report urged SA authorities to avoid similar incidents by sending out a strong message that '*cybersaboteurs*' will be dealt with severely ("Sabotage", 2001).

#### **September 20, 2001**

The Conradie brothers were released on bail of R 10 000 (approximately US \$ 1 500) each when they re-appeared before Magistrate Koeries on charges of sabotage (Nieuwenhuizen, 2001c).

Defense counsel Tredoux argued that the brothers should not be required to report regularly to the local police station as part of the bail sentencing since they have no prior criminal records. Due to his work requirements as engineer and project leader of two multi-million rand projects, a request was submitted that Christiaan Conradie's bail sentencing be relaxed. Prosecutor Galloway argued that a contravention of the Internal Security act was regarded as a serious crime and that the brothers should indeed be required to report to their local police station in order to monitor their movements (Nieuwenhuizen, 2001c). In his bail ruling Koeries ruled that:

- The brothers surrender their passports to the Organized Crime Unit of the SA Police Ser-

vices.

- They may not come in contact with third parties to whom the email was sent.
- They may not come in close proximity of international departure areas.
- Willem Conradie is required to report to the local police station on a twice-weekly basis (Nieuwenhuizen, 2001c).

**September 26, 2001**

The communications manager of Sanlam, Pieter Cronjé, announced that Willem Conradie is to appear before a disciplinary committee of Sanlam on September 26 in connection with the hoax email. He faces charges of alleged transgression of the company’s code of ethics and its policy on electronic communication. He has been suspended from Sanlam’s IT department, pending the outcome of the disciplinary hearing. According to Cronjé, Sanlam’s code of ethics and email policy regulate the use of the company’s electronic communication system to ensure that it is not used in ways that could be harmful to the company or any other stakeholders. He also revealed that Sanlam initiated its own internal investigation concerning the origin of the hoax email even before National Intelligence and the police contacted them in this regard. Sanlam provided its full support to the investigating authorities and the brothers were subsequently arrested. TF Designs are also considering disciplinary measures against the other brother, Christiaan Conradie (Louw, 2001).

**September 30, 2001**

A disciplinary committee of Sanlam ruled that:

- The hoax email, allegedly created and distributed by the Conradie brothers and which had a damaging effect on the Johannesburg Stock Exchange, impacted negatively on Sanlam.
- Willem Conradie violated company regulations by removing from the hoax email the indemnification clause that should accompany all Sanlam email messages.
- He was guilty of creating and disseminating an irresponsible email message.
- He should be summarily dismissed (“Gepaste straf”, 2001; Pamplin, 2001).

The Conradie brothers were still to face the criminal charge of sabotage. The state’s case was based on the premise that the brothers threatened the safety and general interests of SA. It was reported that an alternate charge of fraud would be possible, in which case the state has to prove damage and intent (“Gepaste straf”, 2001; Pamplin, 2001).

**February 27, 2002**

All charges against the Conradie brothers were dropped by the state prosecutor’s office during their re-appearance in court on February 26 2002. The Provincial Director of Public Prosecutions, Frank Kahn, reportedly stated that the Conradie brothers had seen the email as a joke and had ‘*only sent 12 copies to friends*’. Subsequently third parties forwarded the fabricated email message to destinations across the world. Kahn furthermore stated that the SA judiciary did not at the time possess the kind of legislation to deal with Internet offences of this nature (Otter, 2002).

Willem Conradie was dismissed from Sanlam’s employment for contravening the company’s ethical code and electronic communication policy by reportedly ‘*sending the emails*’ (Otter, 2002).

## Main events - A summary

In Table 1 we present a summary of the main events, which followed on the creation of the email hoax, as reported by the SA newspaper press.

<b>DATE</b>	<b>EVENT REPORTED</b>
September 14, 2001	<ul style="list-style-type: none"> <li>– First media reports concerning the alleged CNN email in the SA newspapers.</li> <li>– Financial repercussions and panic trading on the Johannesburg stock exchange reported.</li> <li>– Email dismissed as a hoax by SA and US Governments.</li> </ul>
September 17 and 18, 2001	<ul style="list-style-type: none"> <li>– Intensive computer-based investigations lead to arrest of the two Conradie brothers.</li> <li>– The brothers are charged with sabotage and fraud and appear in court.</li> <li>– Bail denied and the brothers remanded in custody for a further two days.</li> <li>– Professional affiliations of the brothers reported.</li> </ul>
September 19, 2001	<ul style="list-style-type: none"> <li>– Business Day editorial calls for stiff sentence.</li> </ul>
September 20, 2001	<ul style="list-style-type: none"> <li>– Conradie brothers released on bail of approximately US \$1500 each.</li> <li>– Bail conditions: Surrender passports; No contact with third parties to whom email was sent; May not come in close proximity of international departure areas; Willem Conradie is required to report to the police twice a week.</li> </ul>
September 26, 2001	<ul style="list-style-type: none"> <li>– Willem Conradie to appear before a disciplinary committee of Sanlam in connection with hoax email: He faces charges of alleged transgression of the company's code of ethics and its policy on electronic communication; He has been suspended from Sanlam's IT department, pending the outcome of the disciplinary hearing.</li> <li>– TF Designs are also considering disciplinary measures against Christiaan Conradie.</li> </ul>
September 30, 2001	<ul style="list-style-type: none"> <li>– Sanlam disciplinary committee ruling: Hoax email impacted negatively on Sanlam; Willem Conradie violated company regulations by removing from the hoax email the indemnification clause that should accompany all Sanlam email messages; Guilty of creating and disseminating irresponsible email message; He should summarily be dismissed.</li> <li>– Brother still to face criminal charge of sabotage or fraud.</li> </ul>
February 27, 2002	<ul style="list-style-type: none"> <li>– All charges against the brothers dropped by state prosecutor's office.</li> <li>– Prosecutor's office states that the SA judiciary does not at the time possess legislation to deal with such Internet offences.</li> </ul>

## **Stakeholders Emerging from the Press Coverage**

We define a stakeholder as *'any group or individual who can affect or is affected by'* (Spinello, 1997, pp. 47-48), in our case, the hoax email incident. A classification of the individuals who featured in the newspaper reports suggests the following two major stakeholder categories, namely the wider society and specific groupings / individuals directly associated with the incident. Stakeholders from the wider society include:

- US and SA governments;
- Legal authorities including the magistrate, state prosecutor and defense counsel;
- Newspaper editors as representatives of the wider society in general.

Directly associated stakeholders:

- The employers Sanlam and TF Designs;
- CNN;
- Brothers Willem and Christiaan Conradie.

## **Ethical, Social and Legal Comments Emerging from the Press Coverage**

Ethical, social and legal comments emerging from the press coverage are also presented in chronological order. As before, we are of the opinion that this illustrates the increasing dissatisfaction expressed by most of the stakeholders as reported. This perceived dissatisfaction is possibly a result of the growing perception that the Conradie brothers were allegedly responsible for the spreading of misinformation. It is noteworthy to realize that the legal outcome of the case study is not in accordance with the majority of ethical, social and legal stakeholder comments. The main stakeholder comments and views represented in the timeline below are classified in table 2.

### **Details - A timeline**

In order to facilitate the discussion of the relevant comments in a subsequent section dealing with ethical analyses and perspectives of the case study, the extracts from the press coverage are numbered in chronological order. This numbering will also assist the computing instructor in performing an analysis of the stakeholder comments.

#### **September 14, 2001**

- (1) The SA government said in a statement that it was *'psychological and financial terrorism'* (Momborg, 2001; Mulder, 2001).
- (2) The spokesperson for the US embassy in SA said it was a hoax by someone *'who is trying to create discord where there is no need to be. This is an absolutely spurious thing'* (Momborg, 2001).
- (3) CNN denied involvement in the creation and distribution of said email (Momborg, 2001) and furthermore stated that there was *'no truth'* in the email (Mulder, 2001).

#### **September 17, 2001**

- (4) Minister of safety and security, Steve Tshwete, said that the perception that SA was involved in the New York terror attacks compromised and undermined the integrity of the SA government, and ridiculed SA's support of and condolences with the US. The email amounted to *'incitement'*. He pleaded for a heavy sentence as a deterrent for others contemplating similar *'dark deeds'*

(“Bolandse broers”, 2001; Coetzee, 2001; Lekota, 2001). It was speculated that such deeds could even result in retaliatory action against SA (“Bolandse broers”, 2001; Coetzee, 2001).

(5) Western Cape minister of community safety, Hennie Bester viewed such a document as ‘*extremely destabilizing, a safety threat, and cause for emotions to flare up*’ (“Bolandse broers”, 2001; Coetzee, 2001).

(6) Opposition party (DA) safety and security spokesperson, André Gaum reportedly stated that this ‘*sick joke*’ greatly damaged SA. He said that it was a ‘*shocking exploitation of emotions in the midst of an immense trauma in order to experience some kind of misplaced and abnormal satisfaction*’. SA cannot afford this kind of ‘*cyber-terrorism*’ (“Bolandse broers”, 2001; Coetzee, 2001; Sidego, 2001). He described the hoax email ‘*an act of terrorism which deserves to be severely punished*’ (“Bolandse broers”, 2001; Hills, 2001), and called for severe sentences for such offences (Sidego, 2001).

(7) SA Police Services communication and liaison head, Joseph Ngobeni said that it was a ‘*foolish act*’, very damaging to SA, and regarded in a serious light. He continued by warning that ‘*the police had the capabilities to deal with computer crimes*’ (Hills, 2001).

(8) According to Department of Justice spokesperson, Paul Setsetse, the action of the brothers amounted to ‘*sedition*’. He continued: ‘*Many lives have been lost in the American tragedy and anyone who creates **confusion** around the issue must be severely punished*’ (Lekota, 2001).

(9) The director-general of the Department of Intelligence, Vusi Mavimbela disclosed that, shortly after intelligence agents discovered the email he was contacted by the Reserve Bank and the finance minister, Trevor Manuel who ‘*expressed their concern*’ (Banda, 2001).

### **September 18, 2001**

(10) Prosecutor Galloway stated that as the brothers had a wide knowledge of computing technology, the state feared that if the brothers gained access to their personal computers, or the Internet, ‘*they would tamper with, and destroy critical evidence needed by the state*’ (“Brothers appear”, 2001; Cook, 2001; Damon, 2001c).

(11) Defense counsel Tredoux argued that the two brothers did not have criminal records and that the emails ‘*were not meant to be taken seriously*’ (Cook, 2001).

(12) MD of TF Designs, Sarel Venter said that the actions of the Conradie brothers were ‘*shocking*’ and that TF Designs distanced itself from their actions (“Firma oorweeg”, 2001).

(13) The following is a verbatim extract from the editorial of Citizen (“A hoax”, 2001): ‘*Fraud is too kind a word to describe the destructiveness of the email hoax by South Africans in the frenzied atmosphere following the terror attacks on America. Some call it cyber-terrorism. Yes, and it’s also economic sabotage. The fake message was ... more than a stupid joke. ... By the time official denials had been issued and the prank exposed, considerable damage had already been caused. ... The long-range effect is incalculable. While the National Intelligence Agency deserves congratulations for tracking down the suspects, the charge of fraud is much too frivolous. Now it’s possible the perpetrators will get off on a technicality or receive light sentences, simply because our legislation does not cater for the seriousness of their offence. If there is really no other case that can be brought against them, our statute books need to be revised. Cyber-crime is a reality, the law must catch up.*’

(14) The editorial of Beeld (“Staan saam”, 2001) described the actions of the two SA brothers as ‘*reprehensible*’. The rationale and actions of South Africans to inflict damage on their own currency, economy, and country were considered to be ‘*objectionable*’.



**September 19, 2001**

(15) The following is an extract from the editorial of Business Day (“Sabotage”, 2001): Internet-based communication can be described as a ‘*communications utopia*’, but it has also brought with it ‘*a cocktail of problems mainly related to control and irresponsible use*’. The Conradie brothers have been ‘*hailed before the courts on sabotage charges in connection with this sick joke. The joke caused damage to SA’s image at a time when emotions were running high. ... The charges against the brothers should serve as a deterrent to others whose sense of humour is in similarly bad taste. If SA is to avoid a recurrence of this expensive buffoonery, the authorities must ... send out a strong message that cybersaboteurs will be dealt with severely if they are caught. This should start with the US hoax which compromised SA during America’s hour of need*’.

**September 20, 2001**

(16) Defense counsel Tredoux said that the two brothers had no criminal record and that their conduct in the past was beyond reproach. He furthermore stated that as highly educated, skilled and law abiding members of society, they represented ‘*the cream of the crop*’ of SA society (Nieuwenhuizen, 2001c).

(17) Prosecutor Galloway said that the brothers’ offence constituted a ‘*serious contravention*’ of the SA Internal Security act (Nieuwenhuizen, 2001c).

**September 30, 2001**

(18) According to Buys, an attorney specializing in SA internet and e-commerce law, the possible conviction of the Conradie brothers on the charge of sabotage would have far reaching constitutional implications. In particular it would mean that every email, telephone call, and fax would have to be completely factual and correct in order to be disseminated. The SA constitution guarantees freedom of speech, expression, and opinion; but states that no right is absolute and that freedom of speech is, among others, regulated by rules on pornography, defamation and hate-speech, propaganda for war, incitement and misinformation (Pamplin, 2001).

(19) Buys also stated that it would be difficult to place the actions of the Conradie brothers within the above criteria, (18). He viewed the hoax email as a joke, made in bad taste, doubted that the brothers ever intended to compromise the interests of the state, and also questioned the ability of the state to prove the charge of sabotage. Another issue that required clarification concerns the liability of those who forwarded the hoax email message thereby perpetuating the spread and damage thereof (Pamplin, 2001).

(20) The following is an extract from the editorial of Rapport (“Gepaste straf”, 2001): The nature of the email is described as ‘*idiotic*’, and the question as to ‘*what inspired them, and what they hoped to achieve*’, may be asked. Willem Conradie’s dismissal from Sanlam ‘*is deemed an appropriate punishment and may aggravate their ostracism from society*’. It is speculated however that an ‘*excessive sentence may afford the brothers the status of martyrs*’.

(21) According to Sanlam communications manager Willem Conradie was guilty of creating and disseminating an ‘*irresponsible*’ email message that could ‘*damage*’ Sanlam’s reputation (Pamplin, 2001).

**February 27, 2002**

(22) The Provincial Director of Public Prosecutions, Frank Kahn, said that ‘*we do not have legislation that deals with these kind of internet offences. One can liken the offence to hoax bomb threats. Legislation went a long way to dealing with those responsible for the fake bomb threats and we need to do the same when it comes to internet offences that are not currently covered by law*’ (Otter, 2002).

(23) Defense counsel, Morné Binedell said that ‘*I think it would have been extremely difficult for the State to prove criminal intent ...*’ (Otter, 2002).

(24) After the charges were dropped in the Bellville Magistrate’s Court, Willem Conradie was reported to say that *‘to be quite honest, everybody expected this. It was all much to do about nothing and it cost me and my brother a lot of money and time’* (Otter, 2002).

(25) Willem Conradie also said that he and his brother had *‘never sent the emails, and the injustice of having to spend five days in jail after we were arrested really upset us’* (Otter, 2002). This statement should be contrasted with a report of Sowetan on September 17 that one the brothers had reportedly said *‘that his brother had come up with the message and that he had only made some additions to it’* (Lekota, 2001).

### Main stakeholder comments - A summary

In Table 2 we present a classification of the main stakeholder comments according to the different stakeholder categories, as reported by the SA newspaper press.

<b>STAKEHOLDER CATEGORY</b>	<b>CORRESPONDING STAKEHOLDER COMMENT NUMBERS</b>
US and SA governments	(1), (2), (4), (5), (6), (7), (8), (9)
Legal authorities including the magistrate, state prosecutor and defense counsel	(10), (11), (16), (17), (18), (19), (22), (23)
Newspaper editors as representatives of society in general	(13), (14), (15), (20)
Employers Sanlam and TF Designs	(12), (21)
CNN	(3)
Brothers Willem and Christiaan Conradie	(24), (25)

## The Ethical Analyses

We consider three perspectives regarding the ethical analysis of this case. The first focuses on the ethical, social and legal stakeholder comments. Secondly we perform a very brief *hypothetical ethical analysis* that should have been carried out before the email was created and disseminated. Lastly we apply Spinnello’s (2003) *‘three steps of ethical analysis’* to this case.

### **An Analysis of the Ethical, Social and Legal Stakeholder Comments**

In our discussion of the ethical and social comments of the various stakeholders, we a posteriori attempt to establish which normative principles (Spinello, 1995), including nonmaleficence (not to harm), autonomy (right to self-governance), and informed consent (how personal information is to be shared), were applied by the various stakeholders in making their comments.

### **An analysis of comments originating from the wider society**

The ethical and social comments numbered (1), (2) and (4) to (9) originated from the US and the SA governments. Comment (9), attributed to the Reserve Bank and SA finance minister, contains the phrase *‘expressed their concern’*. Other terms and phrases such as *‘psychological and financial terrorism’*, *‘compromises/undermines the integrity’*, *‘ridicules South Africa’s support’*, *‘incitement’*, *‘heavy sentence’*, *‘dark deeds’*, *‘create discord’*, *‘an absolutely spurious thing’*, *‘extremely destabilizing, a safety threat, and cause for emotions to flare up’*, *‘sick joke’*, *‘shocking exploitation of emotions’*, *‘misplaced and abnormal satisfaction’*, *‘cyber-terrorism’*, *‘terrorism which deserves to be severely punished’*, *‘foolish act’*, *‘very damaging to South Africa’* and *‘sedi-*

tion' occur. This suggests the general view that the Conradie brothers violated the normative principle of nonmaleficence, '*above all, do no harm*' (see, for example, Spinello, 1995).

In the first reports on the incident, containing mainly responses of government officials, the guilt of the Conradie brothers were assumed, taken for granted, and the comments seemed to focus on what kind of punishment would be appropriate. In (4), (6), (7), and (8) we find phrases such as '*pleaded for a heavy sentence*', '*deserves to be severely punished*', '*regarded in a serious light*', and '*severely punished*'.

Comments (10), (11), (16) to (19), (22) and (23) reveal certain perspectives of the various law professionals, including the state prosecutor, defense counsel, and an independent legal practitioner.

Comments (10) and (17) of the state prosecutor questioned the integrity of the Conradie brothers by using the terms and phrases '*they would tamper with, and destroy critical evidence needed by the state*' and '*serious contravention*', which reflects their perceived violation of the principle of nonmaleficence.

In (11) and (16) the defense counsel argued in the bail application that the brothers represented the '*cream of the crop*' of SA society, that they had no criminal records, and that the emails '*were not meant to be taken seriously*'. It is worth noting that even the defense counsel made no reported attempt at justifying the brothers' actions. The defense counsel's approach was based on the argument that the email was a joke, not to be taken seriously, and that the integrity of the Conradie brothers was previously above suspicion. We note however that even though the email was meant as a joke, it clearly led to the spreading of misinformation as can be seen in, for example, comments (13), (14), (15) and (18).

In (18) a legal expert on SA internet and e-commerce law referred to the normative principle of autonomy as embodied in the constitution of SA when he stated that freedom of speech, and in particular the dissemination of information, is guaranteed by the SA constitution (Act No. 108 of 1996). His subsequent remark that freedom of speech is regulated by certain rules is based on the normative principle of nonmaleficence as implemented in the SA constitution and he implied that the email allegedly created by the brothers violated this principle and contributed to the spread of misinformation.

Comment (19) represents the first objective expert legal opinion concerning the hoax email, and suggests a perceived divergence of the ethical and legal perspectives prevailing.

This divergence is echoed by the concluding decision (22) of the Provincial Director of Public Prosecutions to withdraw the charges of sabotage and fraud, based on his reported perception regarding deficiencies in SA legislation and the legal complexity of proving intent in this '*cyber crime*' case. Comment (23) summarizes this in a nutshell: '*it would have been extremely difficult for the State to prove criminal intent ...*'

Indeed, the first signs of tension between ethical and legal perspectives appears in a newspaper editorial (13) '*Now it's possible the perpetrators will get off on a technicality or receive light sentences, simply because our legislation does not cater for the seriousness of their offence. If there is really no other case that can be brought against them, our statute books need to be revised. Cyber-crime is a reality, the law must catch up*'. In a subsection to follow we briefly refer to the new SA Electronic Transactions and Communications act (Act No. 25, 2002) that was subsequently promulgated in 2002.

A total of four newspapers devoted their editorial columns to the hoax email incident. The condemnation of the actions of the Conradie brothers by these editors (13), (14), (15), and (20), again on account of their perceived contravention of the principle of nonmaleficence, is clear from their respective comments. In (15), however, the editor of Business Day recognized and applied the

principle of autonomy – *‘each person should be free to determine his/her own actions’* when he described internet-based communication as a *‘communications utopia’*, and speculated on *‘what inspired them, and what they hoped to achieve’*. We also note that the early editorials communicated anger and retribution, while a more dispassionate stance is found in a later editorial (20), containing phrases such as *‘idiotic’*, *‘dismissal is deemed an appropriate punishment’*, and *‘excessive sentence may afford the brothers the status of martyrs’*.

### **An analysis of comments originating from directly associated stakeholders**

Comment (21) concerning Sanlam’s perceived *damage* to its reputation suggests that the principle of nonmaleficence was violated. The use of the term *‘irresponsible’* also implies that Willem Conradie misused the autonomy inherent to the medium of the Internet and email, afforded him by his employer. TF Designs, the employer of Christiaan Conradie, expressed a similar ethical viewpoint in (12).

It may be argued that the premeditated masquerading of the hoax email as a CNN report violates the principles of nonmaleficence, autonomy and informed consent. In (3) CNN officially denied involvement in the creation and distribution of said email and furthermore stated that there was *‘no truth’* in the email.

We conclude the discussion of the comments made by various stakeholders, by focusing on the statements of the perpetrators. In (24), Willem Conradie was reported to say that *‘to be quite honest, everybody expected this. It was all much to do about nothing and it cost me and my brother a lot of money and time’*. In the first section of the quote, he suggested that the justification of their actions ought be protected by the principle of autonomy. In the second section of the quote when he referred to the expense incurred by them, he related this to some form of (unjust) punishment.

In (25) Willem Conradie contradicted the reported facts of the case by saying that they *‘never sent the emails’*. This statement is in conflict with a report (Lekota, 2001) quoting one of the brothers as confessing to the police that *‘his brother had come up with the message and that he had only made some additions to it. He also said that the message was meant to be a joke’* (Lekota, 2001). This is also in conflict with the findings of the disciplinary committee of Willem’s employer, Sanlam (refer to (21); Pamplin, 2001).

When he furthermore in (25) referred to the alleged *‘injustice’* that he and his brother had suffered by spending five days in jail after their arrest, he claimed that the authorities in their case had not respected the principle of nonmaleficence. He furthermore maintained that the third parties who subsequently forwarded the brothers’ private email violated the principle of informed consent.

It is significant that no stakeholder, not even the defense counsel at any stage, condoned the actions of the Conradie brothers: their alleged behavior was deemed undeniably and unequivocally unethical, mainly on the basis of the violation of the principle of nonmaleficence, although their basic right of autonomy was recognized, a right which they seemingly abused.

An analysis of the stakeholder comments results in the ethical conclusion that the alleged premeditated creation and distribution of the *actual* hoax email by the Conradie brothers can be classified as unethical conduct in the realm of Internet use as it was among others responsible for spreading misinformation, harmful in various ways.

### **A Hypothetical Ethical Analysis**

It is instructive to perform a very brief *hypothetical ethical analysis*, which should have been carried out before the email was created and disseminated - an analysis, which the two Conradie

brothers seemingly refrained from doing, or were not able to do. We therefore perform this analysis under the *assumption* that the creation and dissemination of the email is *still being contemplated*. This is in contrast to the *a posteriori* approach concerning reported *actual* stakeholder comments in the preceding sections.

In this regard, and for the purposes of this paper, we use the ‘*Five-step Process of Ethical Analysis*’ of Rananu, Davies & Rogerson (Maner, 2002a) as basis for analysing the possible ethical consequences that could result from sending such an email.

### Step 1: Analysis of the scenario

In sending the email, one would take the following into account:

- *Facts*: The September 11 terrorist attacks on the US provides the context of the hoax email message.
- *Stakeholders*: US and SA governments; Willem Conradie’s employer, Sanlam; CNN; brothers Willem and Christiaan Conradie.
- *Ethical issue*: Should this email be sent or not?

### Step 2: Application of appropriate formal guidelines

- *Corporate or professional codes of conduct*: At the time of contemplation of sending the email, Willem Conradie was employed as a programmer at Sanlam. In this respect, the conduct of any employee of Sanlam is subject to the company’s code of ethics and its policy on electronic communication. Furthermore, his brother Christiaan worked as a professional engineer for TF Designs, and was among others a director of this company. Any practicing engineer in SA must be registered with the SA Council of Professional Engineers and is thus bound by this council’s code of conduct. *Both* codes prohibit the irresponsible and subversive use of specialized knowledge and expertise.
- *Conformance/violation of the Golden Rule* which states ‘*do unto others as you would have them do unto you*’ (Spinello, 1997, p. 37): The contents of the intended email message is false, would implicate fellow South Africans in the terror attacks, spread misinformation, and would therefore violate this rule.
- *Who benefits from or is harmed by the action*: The intended creation and dissemination may provide the alleged originators with short-lived and misplaced satisfaction, but it would potentially be harmful to the rest of society.
- Application of these formal guidelines indicates that the email should not be sent.

### Step 3: Application of ethical theories

This step is concerned with the application of ethical theories and we apply the basic principles of two deontological theories, viz. duty-based and rights-based ethics, the teleological theory of utilitarianism (Spinello, 1997), and the theory of just consequentialism (Moor, 2001).

#### Duty-based ethical theory

The duty-based ethics of Kant may be summarized as ‘*the absolute principle of respect for other human beings who deserve respect because of their rationality and freedom*’ (Spinello, 1997, p. 34). Rananu, Davies & Rogerson (Maner, 2002a) suggest that answers to the following (relevant) questions should be considered:

- *Fidelity*: Is there a promise that should be kept in sending the email?
- *Reparation*: Is there a wrong that should be righted by sending the email?
- *Beneficence*: Can the lot of others be improved by sending the email?

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- *Non-injury*: Can others be protected from injury by sending the email?

None of these questions can be answered in the affirmative, thus indicating that the sending of the email would have no positive outcome for any associated stakeholder. Indeed, the sorrow experienced by relatives of the September 11 victims, in particular the relatives of SA victims, would potentially be aggravated. Furthermore, spreading misinformation in the form of a hoax email could compromise the collective integrity of SA citizens.

### **Rights-based ethical theory**

This approach focuses on individual rights and respect for these rights which are equal. According to Spinello (1997, p. 39) '*everyone, for example, equally shares in the rights to life and liberty regardless of their nationality or status in society*'. Rananu, Davies & Rogerson (Maner, 2002a) suggest that answers to the following (relevant) questions should be considered:

- *Is the right to know respected?* No, because the intended information to be disseminated is not only fictitious, but also of a subversive nature.
- *Is the right to privacy respected?* If this email is sent masquerading as a CNN news report quoting US Secretary of State, Colin Powell, it would amount to fraudulent use of Powell's and CNN's (private) identity. Thus the answer is 'no'.
- *Is the right to property respected?* The sovereignty and integrity of all SA citizens, including the SA government, would be seriously compromised if this email were sent. Again the answer is 'no'.

### **Consequence-based ethical theory**

Utilitarianism is a widely used form of consequentialism (Spinello, 1997, p. 27). For the purposes of this analysis, we concur with Spinello (1997, p. 28) that '*utilitarianism is the moral doctrine that an action is morally right if it produces the greatest happiness for the greatest number of people affected by it*'. We need to determine who would be affected if the email message were disseminated. As the intention of the email message is to mislead and cast suspicion, the integrity of all South Africans would be undermined. Thus the wider society would not benefit from sending this message.

### **Just consequentialism**

Moor (2001) summarises the theory of just consequentialism to imply that the ends, however good '*do not justify using unjust means*'. Regarding the sending of the fraudulent email message (the end), we note that the following unjust means would be necessary to achieve this:

- Sanlam's computer equipment would be illegitimately used;
- Sanlam's indemnification clause should be removed.

Therefore it would not be possible to achieve the envisaged end (sending of email message) without utilizing unjust means. Thus the requirements of just consequentialism are not satisfied.

We conclude that all the ethical theories applied in this step, suggest that the email should not be sent.

## **Step 4: Application of relevant law**

At the time of contemplation of this hoax email, no law, explicitly regulating Internet conduct, existed.

## Step 5: Application of informal guidelines

Rananu, Davies & Rogerson (Maner, 2002a) suggest that answers to the following appropriate informal questions should be considered:

- *The Mother test:* Would you tell her? Would she be proud or ashamed? We speculate that in general a person would refrain from divulging potentially embarrassing information to immediate family members, including one's 'mother'. In this respect, dissemination of fraudulent information could be seen as potentially embarrassing.
- *The TV test:* Would you tell a nationwide audience of your actions? If the lies contained in the fictitious email to be sent, were exposed, it would undermine one's integrity. Therefore one would certainly not want to be exposed in this manner.
- *The Other Person's Shoe test:* What if the roles were reversed? One can speculate that the consequences of the email containing blatant misinformation, even as misplaced humor, could compromise the integrity of fellow South Africans by implicating them in the September 11 terrorist attacks. It is thus reasonable to assume that rational citizens would object to such implication. If the roles were reversed, one would prefer not to be associated with such actions. In this regard one would refrain from sending such an email.

We conclude that application of the above informal guidelines suggest that the email should not be sent.

## Finally: Make a defensible choice

The application of steps 1 to 5 yields the same conclusion; viz. that the premeditation, creation, and distribution of the *hypothetical* hoax email containing deliberate misinformation, is unethical and should not be sent.

The above hypothetical ethical analysis therefore yields the ethical conclusion that the alleged actions of the brothers can be considered as unethical.

## Application of Spinello's Three Steps of Ethical Analysis

In this section we use Spinello's (2003, pp. 17-18) general three-step approach that concerns our intuition, a critical normative evaluation and public policy implications. The above two analyses, viz. the stakeholder comment analysis and the hypothetical ethical analysis, may be considered as instances of this general approach of Spinello. We will therefore refer to these two analyses and integrate them according to Spinello's three-step approach to conclude the ethical analysis of this case.

### Step 1: Intuition

The analysis of the stakeholder comments may be considered a reflection of the collective intuition of society regarding the perceived unethical nature of the actions of the brothers. Furthermore, any rational, law-abiding citizen's intuition about this incident corresponds closely to the application of the informal guidelines as in step 5 of the hypothetical ethical analysis. Thus the spreading of misinformation by means of such a hoax email is intuitively unethical.

### Step 2: Critical normative evaluation

An analysis of the ethical and social comments of the various stakeholders according to the normative principles of nonmaleficence, autonomy and informed consent indicates that the actions of the brothers may be considered to violate these principles and their actions may consequently be deemed unethical. A critical normative evaluation based on various ethical theories including duty-based ethics, rights-based ethics, utilitarianism and just consequentialism as performed in

step 3 of the hypothetical ethical analysis, similarly indicates the unethical nature of such a hoax email.

### **Step 3: Public policy implications**

In addressing public policy implications Spinello (Maner, 2002b) suggests that the following two questions be considered:

- *Should the recommended behavior be required by law?* The social need for appropriate legislation was aptly demonstrated by this case and reflected in the analysis of the social and ethical comments of the stakeholders. However, the legal procedures initiated by the various authorities were unsuccessful. These procedures instituted against the brothers, which included charges of fraud and sabotage, were withdrawn in a somewhat anti-climatic fashion. In this regard the Provincial Director of Public Prosecutions, Frank Kahn, said that *'we do not have legislation that deals with these kind of internet offences'* (Otter, 2001). Step 4 of the hypothetical ethical analysis makes provision for the application of relevant laws - which at the time did not exist. We however note that a recent law (Act No. 25, 2002) has been promulgated in this respect and we explore the conflict between the ethical and legal conclusions of this case in the following section.
- *Should the recommended behavior be enforced by policy or regulations?* This question is already addressed in the following sense: In the analysis of the stakeholder comments we saw that the employers of both brothers, Sanlam and TF Designs, condemned the alleged actions of the brothers, described it as *'irresponsible'* and distanced themselves from it. Indeed, a disciplinary committee of Sanlam found Willem Conradie's actions to be in violation of the company's code of ethics and its policy on electronic communication. Step 2 of the hypothetical ethical analysis concerns the contravention of the codes of conduct of *both* Sanlam and the SA Council of Professional Engineers, which prohibit the irresponsible and subversive use of specialized knowledge and expertise.

This discussion of Spinello's two questions emphasizes the importance of having public policies and regulatory measures in place in order to prohibit unethical behavior and to sensitize citizenry in this regard. In spite of the existing policies the brothers were perceived as guilty of unethical conduct by spreading misinformation.

Since Spinello's three-steps of ethical analysis represent a synthesis of the various ethical perspectives discussed in this paper, the conclusion remains that the alleged premeditated creation and distribution of the *actual* hoax email by the Conradie brothers can correspondingly be classified as the spreading of misinformation and unethical conduct in the realm of Internet use.

## **Conflict between Ethical and Legal Conclusions**

In spite of the technical capabilities of the SA police to investigate computer crimes of this nature (refer to stakeholder comment (7); Hills, 2001), all charges against the brothers were dropped. The ethical conclusion of the preceding sections furthermore does not correspond to the legal outcome of the case. In an attempt to justify this anomaly, the Provincial Director of Public Prosecutions, Frank Kahn stated that *'we do not have legislation that deals with these kind of internet offences ... Legislation went a long way to dealing with those responsible for the fake bomb threats and we need to do the same when it comes to internet offences that are not currently covered by law'* (Otter, 2002).

According to D. P. Van der Merwe (private communication, 2003), a specialist in SA criminal and procedural law and co-author of the SA Electronic Communications and Transactions (ECT) act (Act No. 25, 2002), the reported statement of Kahn may be challenged. Under current com-



mon law principles (finding its roots in Dutch Roman law) Van der Merwe argues that the brothers could be prosecuted on the charge of fraud, which requires:

- proof of prejudice (including potential prejudice);
- proof of intent, in particular *dolus eventualis*, which implies that the perpetrator foresees the possibility of harm, reconciles him/herself with the eventuality, and proceeds regardless.

According to Van der Merwe, proof of prejudice seems tractable as:

- Prosecutor Galloway stated that forensic evidence linked the brothers to the creation and dissemination of the hoax email.
- Sanlam’s disciplinary committee conducted a thorough investigation, and came to the following conclusions:
  - The misinformation contained in the alleged hoax email of the Conradie brothers had a damaging effect on the Johannesburg Stock Exchange, and impacted negatively on Sanlam.
  - Willem Conradie was guilty of creating and disseminating an irresponsible email message.
- During the bail hearing, prosecutor Galloway mentioned the detrimental effect of the incident on the SA economy and the significant depreciation of the SA currency.
- Minister of safety and security, Steve Tshwete said that the hoax email undermined the integrity of the SA government and its relations with the US government.

This coincides with the views of Buys (Pamplin, 2001). Both also agree that proving *dolus eventualis* may be difficult. However, Van der Merwe is of the opinion that it would not be impossible since it was alleged that:

- The Conradie brothers intentionally removed the Sanlam email disclaimer thereby deliberately transgressing Sanlam’s code of ethics pertaining to email communication.
- They attempted to destroy evidence regarding ISP information after officers of the National Intelligence Agency first contacted them.
- Once all charges were dropped, Willem Conradie compromised his integrity when he allegedly denied that they sent the hoax email. This apparent innocence is in contrast with an earlier report of Lekota (2001). Van der Merwe regards this information as crucial in the event that the case is ever re-opened. In particular this reported statement by Conradie might be used to dispute their purported flawless integrity.

In the previous section we argued that the alleged actions of the Conradie brothers were unethical and resulted in harmful misinformation, but nevertheless all charges against them were dropped. Furthermore, we have also taken note of Kahn’s reported statement regarding the perceived lack of legislation concerning Internet offences. However, Van der Merwe is of the opinion that prosecution on the charge of fraud (not sabotage) seems possible under existing SA common law. One can thus only speculate as to the reasons why the State decided to drop all charges against the Conradie brothers.

## Recent South African Computer Ethics Initiatives

In this section we briefly mention a number of SA computer ethics initiatives following the September 11 incident, and the creation and dissemination of the hoax email in particular, with regard to legislation and education. The reason for selecting these two categories may be found in the complementary roles that they often play in society. A main purpose of legislation is to prosecute deliberate offenders. Since legal constraints ‘do not necessarily provide sufficient guidelines for addressing complicated ethical issues in information technology’ (Spinello, 1995: 16), as is

clearly demonstrated by the hoax email incident, it is the responsibility of the educator, among others, to equip the prospective computer professional with the awareness, knowledge, and skills to make ethically justifiable choices and decisions. We therefore contend that the educator should play an important role in this regard.

Regarding *legislation*, we note that the ECT act (Act No. 25, 2002) was since promulgated and contains a section on 'Cyber Crime' regulating unauthorized access to interception of, or interference with data; computer-related extortion, fraud and forgery; as well as attempt, and aiding and abetting a third party in committing any of these offences. Furthermore, the government is currently in the process of developing new legislation concerning, among others, computer related privacy.

The high profile of the hoax email together with recent accreditation requirements, have stimulated the *teaching* of and research in computer ethics in SA. In the period 1992 to September 11 2001, the only local publication regarding the teaching of computer ethics in South African university CS/IS departments that we are aware of, is (Clarke, 1992). Since 2001, different CS/IS departments have included computer ethics topics in their curricula. Various computer ethics topics have also been addressed by local researchers, for example (Britz, Boekhorst & Bothma, 2002; Charlesworth & Sewry, 2002; Lipinski, Buchanan & Britz, 2002; Pretorius, Barnard & De Ridder, 2002; Barnard, De Ridder, Pretorius & Cohen, 2003; Cloete, Pretorius & Barnard, 2003).

Although we only mention these two categories, we acknowledge that there are various other initiatives regarding sensitization to ethical and professional conduct in the SA IT industry.

## Conclusion

This paper concerns a real-life case study in a SA context, viz. a hoax email implicating SA in the September 11, 2001 attacks on the US. It is based on SA newspaper press coverage and consists of three main parts. Firstly, it describes and explores the newspaper reports covering the incident and unfolding of subsequent events. Secondly, it considers various appropriate ethical perspectives on the sequence of events, and thirdly it alludes to insights that may be acquired and lessons that may be learnt.

The description takes the form of a factual timeline of the sequence of events as reported, an identification and a grouping of the various stakeholders, and a numbered list of ethical, social, and legal stakeholder comments concerning this incident.

Three different ethical perspectives of the incident are considered. Firstly, an a posteriori analysis of the stakeholder comments is performed referring to normative principles including nonmaleficence, autonomy and informed consent. This is followed by a hypothetical a priori ethical analysis of the sending of such a hoax email. Finally these ethical analyses are integrated by means of a general three-step approach to ethical analysis (Spinello, 2003). It is concluded that the alleged creation and dissemination of the hoax email is unethical and lead to the spreading of harmful misinformation.

Regarding insights gained, it is observed that at the time of the incident there was a divergence between the ethical and legal conclusions, as explored by consulting a specialist in SA criminal and procedural law. Although there are different legal perspectives regarding this incident, the computer ethical perspective is clear.

Furthermore, the important role that educators should play in providing prospective computer professional with the awareness, knowledge, and skills to make ethically justifiable choices and decisions, is emphasized. A lesson that may be learnt from this incident is that it is not a given that computing professionals are necessarily sufficiently sensitive to and aware of ethical issues permeating their sphere of expertise and influence. It is hoped that the case study reported on in

this paper, together with its multi-faceted discussion, may be of use to computing instructors wishing to sensitize their students to various ethical issues including misinformation that may arise in the use of email and the Internet.

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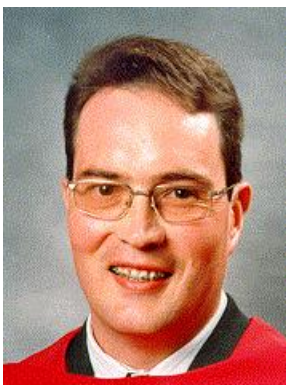
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## Biographies



**Laurette Pretorius**, professor in the School of Computing, University of South Africa, holds a PhD (Applied Mathematics). She teaches courses in numerical methods, automata theory and formal languages, computer graphics and computability theory. Her research interests include computer ethics and natural language processing with emphasis on the African languages.



**Andries Barnard**, associate professor in the School of Computing, University of South Africa, holds a PhD (Computer Science). He teaches courses in automata theory and formal languages, and undergraduate and postgraduate project management courses. His research interests include computer ethics and graph grammar languages.