

Spam and Spammers

SOIS 110, Spring 2005
Session 14
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Spammers

- Senders of junk commercial email
 - Or junk postings to newsgroups
- Usually intended to direct users to commercial website
 - Some spam sent on behalf of legal products
 - Some even useful!
 - Much spam for useless items, or fraud

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Interesting Topic Because

- Spam uses the great features of email to annoy us
 - Technology changes the economics of junk mail
 - So far no solutions seem very effective
- Promise of technology undermined by human nature?

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Common Spam Topics

- The Nigeria Bank Account Hoax
 - Favorite with fax machines in 1980s
- Viagra
- Body part enlargement
 - Surgery, pills, herbal remedies, etc.
- Make money from home
 - Usually Amway type schemes for vitamin pills

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The First Spam

- Send in 1978 on ARPANET
 - By DEC sales rep Gary Thuerk, to all West Coast users
 - Addresses typed in by hand
- Causes groundswell of opinion against advertising
- Simple sales announcement:
DIGITAL WILL BE GIVING A PRODUCT PRESENTATION OF THE NEWEST MEMBERS OF THE DECSYSTEM-20 FAMILY: THE DECSYSTEM-2020, 2020T, 2060, AND 2060T. THE DECSYSTEM-20 FAMILY OF COMPUTERS HAS EVOLVED FROM THE TENEX OPERATING SYSTEM AND THE DECSYSTEM-10 <PDP-10> COMPUTER ARCHITECTURE. BOTH THE DECSYSTEM-2060T AND 2020T OFFER FULL ARPANET SUPPORT UNDER THE TOPS-20 OPERATING SYSTEM....

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A Typical Spam

- From: Gilbert Santiago [g.santiago@worldnet.fr]
- Subject: Hi
- Text:
EXPAND YOUR MANHOOD
****** 100% Guaranteed ******
No Pills Or Capsules
No Prescription Necessary
100% Safe & Natural
Satisfy Your Lover Like Never Before!
Fast, Discrete Shipping**Sick of promises without results?**
Unsubscribe: [Click here](#)
ddfhbdblbgdsdfbgsfdldsfgrldsglsgKSDgdgsdfgdsfgdsfgFGKLLJHGBVC%Y=U=yte
gbvJRDxJFGV CxzzsgadsbxcBHHHERH
bye

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Term Spam Comes Later

- In 1994, immigration lawyers send message to every Usenet newsgroup
 - Canter and Seigel, advertising green card lottery form filling service
 - Post seen by most Internet users
- Called "spam"
 - Angry users flood fax, email, phones
- Term "spam" allegedly used on MUDs since 1980s
 - Anything that floods system with multiple copies

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Origin of the Phrase

- Spam = Spiced Ham
 - Weird pink jelly meat in a can
 - First offered in 1937
 - Six billion cans produced as of 2002
- Distributed widely in WWII
 - Especially in Britain



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Monty Python Spam Sketch

- Surreal, early 1970s British comedy show
- Mocking bad state of British cuisine
 - A couple visit a cheap café
 - Everything on menu comes with spam
 - Spam, egg and chips is the least spam
 - Most dishes have more spam,
 - E.g. spam, egg, spam, spam, bacon and spam
 - Then Vikings start singing about spam
- Husband: "I'm having spam, spam, spam, spam, spam, spam, spam, baked beans, spam, spam, spam and spam"
- So spam is something forced in large amounts on unwilling recipients

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Early Countermeasures

- Email administrators fight back
 - Fill mailboxes of spammers with big files
 - Get ISPs to terminate spammer accounts
 - Bar all traffic from domains known to harbor spammers
- Success is limited
 - Spammers use free or disposable accounts at hotmail, etc
 - Return addresses are usually faked

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Economics of Spam

- Glossy catalog costs about \$1.00 to send
 - Postage, printing, design and production
- Spam costs essentially nothing
 - Text messages take very little bandwidth
 - Regular DSL connection and old PC can send vast stream
- Email addresses harvested from web, newsgroups, home pages, directories, etc.
 - Very low response rate
 - But can make money if one in tens of thousands responds

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Costs are on Consumer

- Volume of spam now exceeds that of non-spam
- One Jan 2003 estimate:
 - Spam costs US Corporations \$8.9 billion a year
 - Lost employee productivity
 - Wasted bandwidth
 - More powerful servers needed
 - Helpdesk and system administrator time
- Another recent estimate: \$874 per employee
 - Based on 6.5 minutes a day deleting spam

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Current Defenses

- Spam filtering algorithms
 - Often on server, also in Outlook
 - Compare with known spams
 - Look for keywords like \$\$\$\$, Viagra, etc.
 - Look for auto generated user names
- Tighter controls on email sending and relaying
 - E.g. IU requires VPN authentication for outgoing mail

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Recent Legislation

- The "CAN-SPAM" law went into effect Jan 2004
- Outlaws faking of email address in spam
 - Fine of up to \$250 a message
 - FTC allowed to set up "do not spam" list
 - but probably won't bother
- Protects interests of "legitimate" spammers with real return address
 - No individual right to sue (enforcement dubious)
 - Contrast with effective law on junk fax sending
 - Refuses to require commercial email to include flag for easy filtering (such as ADV in subject line)
 - Overrides tougher state provisions
 - e.g. California ban on unsolicited junk email

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Fate of Email

- Tide of spam is unlikely to recede
 - No content-based spam filter is likely to work
 - New law will be toothless
 - International issues make enforcement hard
- Technological solution to faked address problem exists
 - Digital signing and confirmation systems
 - But would require rejection of unsigned mail
- Economics will continue to favor spammers
 - Especially if spam with real return address remains legal

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