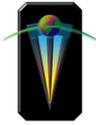


# CSI 2911

School of Electrical Engineering and Computer Science, Computer Science Program



Midterm EXAM

Feb. 29, 2012

**NAME:**.....

**STUDENT NO.**.....

This is a closed book, closed laptop test. Time: 70 min.

Please answer the multiple choice questions 1-25 on the coding answer sheet provided. Answer questions 26 on this handout in the space supplied, and turn it in together with the coded sheet at the end of the test. Questions 1-25 are worth 0.5 points, question 26 is worth 7.5 points, the whole midterm is 20% of the course mark.

NOTE AUX ÉTUDIANTS/ES FRANCOPHONES : après avoir pensé assez longtemps sur la traduction des questions en français, j ai décidé contre pour la raison suivante : le matériel que vous avez étudié est tout en anglais. Si je traduisais les question en français, y compris la terminologie technique utilisée (p. ex. "informationally enriching"), ça aurait introduit une confusion de compréhension des question de votre part. Si jamais il y a des questions qui ne vous sont pas claires telles que présentées en anglais, surtout n'hésitez pas à me demander une clarification pendant l'examen. Veuillez noter que la partie "scénario" de la question 26, plus descriptive et sans vocabulaire technique, a été traduite (mais pas la question qui suit et dont les concepts vs avez étudié en anglais).

1. According to Moor, computers are “informationally enriching” because **A**
  - a) They can be manipulated to do any activity syntactically and semantically
  - b) The process of informational enrichment is gradual and is more manifest
  - c) Computers are put to many uses in diverse activities
  - d) Information enrichment can affect ethical and legal practices and concepts
  
2. Which one of the following elements DOES NOT belong to Moors 3Rs of Computer Ethics: **B**
  - a) Reason
  - b) Resolution
  - c) Relativity
  - d) Responsibility
  
3. In Bynum’s Theory, consider the analysis: If ICT will result in new possibilities that were never encountered before (e.g. by combining computing technologies with genetic technologies), how should resulting benefits and harms be fairly distributed, and how could people’s right be properly respected? The above question belongs to which part of Bynum’s analysis? **C**
  - a) Professional standards analysis
  - b) Roles and responsibilities analysis
  - c) Stakeholder analysis
  - d) None of the above
  
4. If an organization collects personal information on application forms, those application forms should clearly describe the usage for which personal information is being collected. This satisfies which of the following privacy principles of PIPEDA? **B**
  - a) Consent
  - b) Identifying purposes
  - c) Limiting collection
  - d) Accuracy
  
5. Which one of the following IS NOT a technique of patient privacy protection in health care? **D**
  - a) Prevention of inadvertent disclosure of patient’s information
  - b) Prevention of identity thief
  - c) Safe data publishing
  - d) Use automated mining methods to protect privacy in data methods
  
6. From the following list, which of the Fair Information Principles is missing: **C**
  - Accountability
  - Identifying purposes

- Consent
- Limiting compliance
- Limiting use and disclosure
- Accuracy
- Safeguards
- Openness
- Individual access
- challenging compliance

- a) limiting storage
- b) limiting personal identifiable information
- c) limiting retention
- d) limiting access

7. What does computer matching mean in privacy and computer technology? **A**

- a) Use social insurance number to match records
- b) Search and analyze records in database to find patterns
- c) Search records in the collection of personal information
- d) Collect records which contain personal information without the person's knowledge

8. Privacy-preserving data mining may achieve the following function: **B**

- a) Restrict the access to databases with sensitive personal information
- b) Prevent data-based profiling of stigmatized groups
- c) Make it difficult to combine databases with and without personal information
- d) None of the above

9. Which one of the following services IS NOT provided by Google **C**

- a) AdSense
- b) Gmail
- c) Ubuntu
- d) Desktop
- e) Toolbar

10. Which one of the following is a characteristic of cookies? **C**

- a) A cookie is a unique ID placed on the Internet.
- b) Google places a cookie on user's machine but reads it only with user's consent.
- c) If the user already has a cookie on his or her machine, Google can read and record the cookie.
- d) Google's cookies do not expire unless he or her manually delete them.

11. With the Punchscan electronic election system, **D**
- a) voters can prove to a third person how they voted
  - b) once a vote has been made, a voter cannot check online due to security concerns
  - c) users have to understand some fundamental cryptography knowledge in Punchscan in order to keep their votes secure
  - d) once a vote has been made, a voter can check online if their vote has been counted correctly.
12. In which country does governments have taken steps to cut, or seriously reduce the flow of information and opinion on the Net **A**
- a) China
  - b) United States
  - c) Canada
  - d) France
13. According to US freedom of speech guidelines, a censorship law **B**
- a) can reduce adults to reading only what is fit for children
  - b) can solve speech problems by the least restrictive means
  - c) must limit expression of legal speech
  - d) solve speech problems by the most restrictive means
14. Suppose a CIPS member is tasked by her employer to develop a system which, in the opinion of that CIPS member, serves unethical purposes (e.g. a person with strong pro-life views is asked to develop a website for a pro-choice organization). Can that CIPS member refuse doing this job on the grounds of personal ethical convictions (Avoid conflicts of interest) **B**
- a) yes
  - b) no
  - c) depends on the religious beliefs of the member
15. Which of the following is NOT part of the set of laws and guidelines for which regulatory compliance may be required: **D**
- a) PHIPA
  - b) SOX
  - c) PIPEDA
  - d) SOPA

16. When a Galaxy IV satellite computer failed, many systems we take for granted stopped working. The failure interrupted radio and television broadcasts. Airlines that receive their weather information from the satellite had to delay flight. This is a **A**

- a) System failure
- b) Communication failure
- c) Transportation failure
- d) Individual failures

17. Which one of the following IS THE LEAST LIKELY cause of computer-system failures? **C**

- a) Reuse of software from another system without adequate checking
- b) Inadequate training of users
- c) Inadequate tools for software development
- d) Inadequate response to reported problems

18. The crash of America Airline Flight 965 near Cali, Columbia, in 1995 illustrates the importance of **B**

- a) Software engineering and professional responsibility
- b) User interfaces and human factors
- c) Redundancy and self-checking
- d) Testing

19. In the Punchscan election system, the system is trusted because **D**

- a) The voters can verify their vote after the election
- b) There is a strong cryptographic protection of the table specifying how a vote is counted
- c) The voters destroy half of the voting ballot
- d) The audit of the table specifying how a vote is counted is highly randomized

20. Which of the following characteristic of privacy given in J. Moor's paper is most accurate: **C**

- a) Privacy is a core value just like security
- b) Privacy is not a core value because security is not
- c) Privacy is an expression of the core value, i.e. security
- d) Privacy is an expression of the core value, i.e. freedom to be left alone

21. Which among the guidelines for posting sensitive material on the web is missing from this list:

**D**

- Consider unintended readers or users
- Consider potential risks
- Remove it may be difficult to remove material from the web once it's posted
- Consider ways to limit access to unwanted users

- a) Make the material unreachable for search engines
- b) Screen users with an on-line questionnaire
- c) Warn user about sensitive material on the website
- d) None is missing

22. What lies at the basis of the technology making Psiphon technology combat internet censorship: **C**

- a) Use of proxies
- b) Use of VPN
- c) Both of the above
- d) None of the above

23. The “database” definition of data privacy given in class is related to the following feature of database systems: **A**

- a) Views
- b) Tables
- c) Keys
- d) Joins

24. Which of the following IS NOT an ACM member professional responsibility **B**

- a) Honor confidentiality
- b) Honor computer security
- c) Give credit for intellectual property
- d) Do not discriminate

25. You are a programmer, and you think there is a serious flaw in the system your [small] company is developing. However, the company’s marketing manager insists that the product be released for a major professional show. Whom should you talk to about your concerns: **D**

- a) The media
- b) The police
- c) Manager of marketing
- d) Company owner

26. Consider the following scenario (texte français ci-dessous):.

Joe Lighthouse, a Computer Science student at Canada University (and a CIPS student member), has a seasonal part-time job with Get Your Refund Now (GYRN), a tax preparation company working out of a local mall. Joe’s job is to prepare tax returns for GYRN’s customers based on brief interviews and data they provide (T4 slips, verbal declarations of income etc.) One weekend

he decides to leave early to watch a game with his friends, but promises his boss to do the returns for Mon. He takes the files on which he has already started with him on a USB stick.

While he's watching the game with his friends in a bar, he drops the USB on the floor and does not notice it until the next day.

Tom Badguy finds the USB, takes it home and reads the files on his laptop without any problem, Tom notices that among the tax returns there is one for Bill Trickster, his neighbor. He can see that Bill declares only \$25K annual income, while – as Tom knows – Bill is driving a brand new Porsche Cayenne, worth \$60K. Tom starts blackmailing Bill, threatening that he will report him to revenue Canada. Bill, who's recently won \$500K in 6/49, notifies the police. Tom is arrested and the whole story is reported by then national media. Bill's former wife reads about it and sues Bill for past, unpaid child support, and she wins the case.

Le même texte en français : Joe Lighthouse, étudiant en informatique de l'Université Canadienne et membre-étudiant de CIPS, a un travail temporaire à temps partiel au Get Your Refund Now (GYRN), une compagnie qui vend, dans un centre d'achats, le service de préparation des déclarations d'impôt. Joe prépare les déclarations d'impôt avec les données qui proviennent des clients (p. ex. formulaires T4) et informations verbales fournies par les clients. En fin de semaine Joe décide de partir plus tôt pour regarder un match avec ses copains, mais en partant il promet à son chef de finir les déclarations pour lundi. Il prend les fichiers sur lesquelles il a déjà commencé à travailler avec lui sur une clé USB.

En train de regarder le match dans un bar, il laisse tomber le USB par terre sans rien remarquer jusqu'au lendemain.

Tom Badguy trouve cette clé USB, la prend chez lui et la lit sans difficulté sur son laptop. Il réalise que parmi les déclarations sur cette clé il y a celle de son voisin, Bill Trickster. Il remarque que Bill a déclaré un revenu de 25,000\$ seulement, malgré qu'il conduit – comme Tom le voit tous les jours - une nouvelle Porsche Cayenne qui vaut 60,000\$. Tom veut faire chanter Bill, en menaçant qu'il va le reporter à Revenu Canada. Bill, qui a récemment gagné \$ 500,000\$ dans 6/49, informe la police. Tom est arrêté et toute l'histoire est rapportée par les médias nationaux. Ex-épouse de Bill apprend tout et poursuit Bill en justice pour le soutien aux enfants que son ex lui doit. Elle obtient gain de cause.

Perform partial Bynum analysis of this incident. Specifically, address only the following:

- a) List actors and their roles

b) Perform a “roles and responsibilities analysis”

c) Perform a “stakeholder analysis”

d) Perform an “ethical theory analysis”

e) Draw one main lesson for the future