

Technology and Ethics

ENGR 125

Which Candidate would you choose?

- It is time to elect the world leader, and your vote counts.
- **Candidate A:** Associates with crooked politicians, and consults with astrologists. He's had two mistresses. He also chain smokes and drinks 8 to 10 martinis a day.
- **Candidate B:** He was kicked out of office twice, sleeps until noon, used opium in college and drinks a quart of whisky every evening.
- **Candidate C:** He is a decorated war hero. He's a vegetarian, doesn't smoke, drinks occasional beer and hasn't had any extramarital affairs.

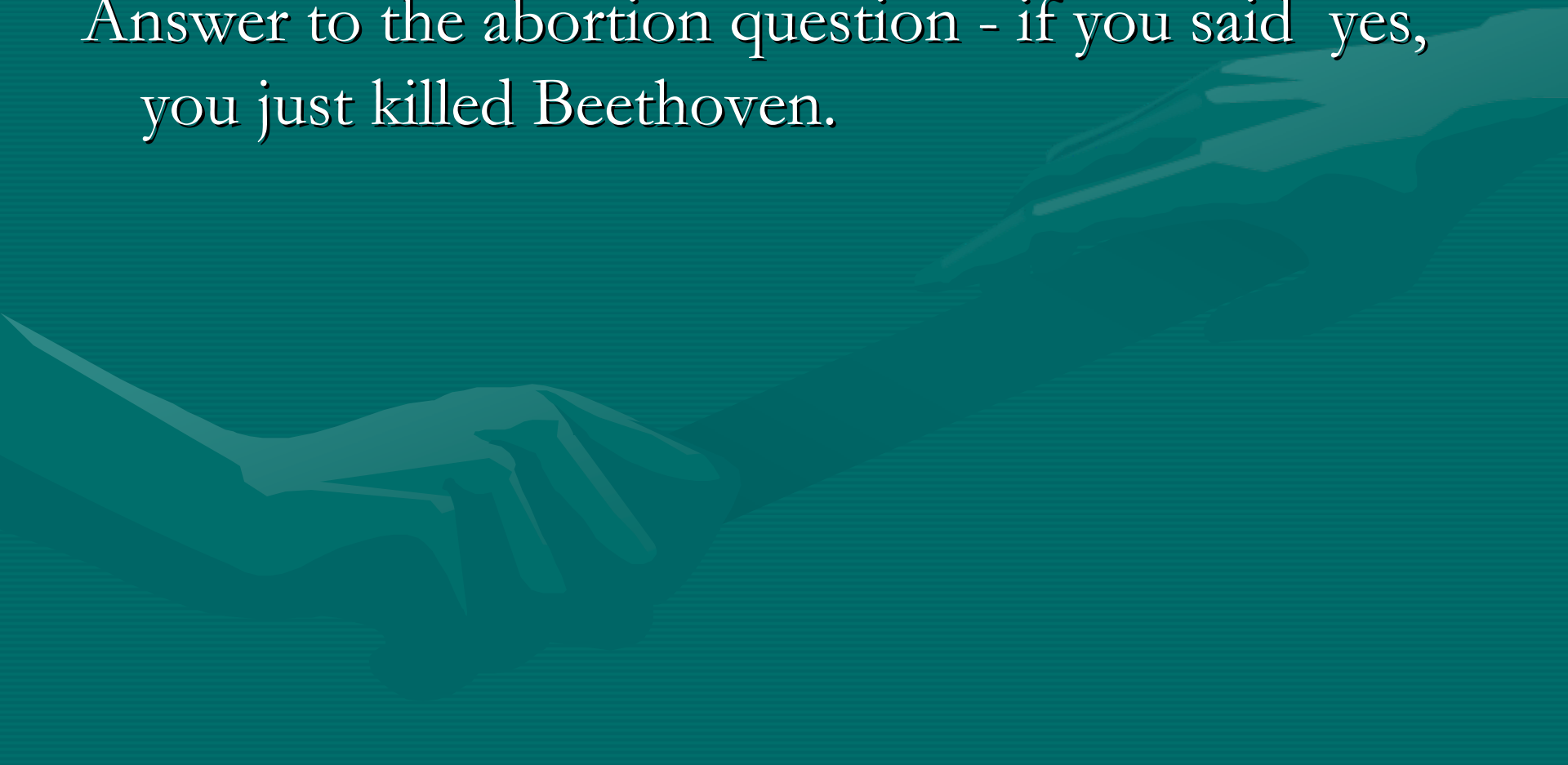
Candidates Identified

- Candidate A is Franklin D. Roosevelt.
- Candidate B is Winston Churchill.
- Candidate C is Adolph Hitler.

Points to Ponder

If you knew a woman who was pregnant, and she had 8 kids already, three who were deaf, two who were blind, one mentally retarded, and she had syphilis; would you recommend that she have an abortion?

Answer to the abortion question - if you said yes,
you just killed Beethoven.



Ethics in Engineering

“Ethics is knowing the difference between what you have a right to do and what is the right thing to do.”

Justice Potter Stewart

General Ethics

- Ethics is generally concerned with rules or guidelines for morals and/or socially approved conduct
- Ethical standards generally apply to conduct that can or does have a substantial effect on people's lives

Values vs. Ethics

- Our fundamental beliefs or principles
- Define what we think is right, good fair and just
- Does your employer tell you what your values ought to be? No.
- Values are inherent to you as you enter the workplace
- Behaviors
- Tell people how to act in ways that meet the standard our values set for us
- Employer's responsibility to set behavioral standards and to train employees in what those standards are

Benefits linked to effective ethics program

- Fostering a more satisfying and productive work environment for employees
- Building and sustaining a company's *reputation* within the communities in which it operates
- Recruiting and retaining top-quality people

- Maintaining the trust of employees to ensure continued self-reputation
- Legitimizing an open dialogue concerning ethical issues
- Providing ethical guidance and resources for employees prior to making difficult decisions
- Aligning the work efforts of staff with their company's broader mission and vision

Making tough decisions

- ...Spur of the moment
- ...No one is watching
- ...Great temptation
- Influenced by your **VALUES**

7 Helpful Quick Tests

1. OBEY THE LAW

- If there is a law about the issue, obeying the law is the best long-term choice.

2. FRONT PAGE TEST

- If your choice were to show up on tomorrow's front page of your local newspaper, would you feel proud?

3. MOM TEST

- What choice would you make if your Mom (or some other person of high moral character) were present? Make Mom proud.

4. GUT TEST

- Body reacts in some negative way (nauseous, sweat, dry mouth, uneasy feeling). Trust your gut.

5. GOLDEN RULE TEST

- Do unto others as you would have them do unto you. If the tables were turned, how would you judge the action?

6. GREATEST GOOD TEST

- Do what will result in the best outcome for the greatest number (utilitarianism).

7. RULE TEST

- “If the action I’m about to take were to become a rule for all to follow, would it be a good rule?”

BONUS - SPANDEX RULE

Just because you can...

doesn't mean you **SHOULD!**

Whistle Blowing

- As seen in NAFTA Principles of Conduct, the engineer may be in a position to be a “whistle-blower”
 - Justified when:
 1. Organization to which the engineer belongs, through product or service, does serious and considerable harm to the public
 2. Engineer has identified threat, reported to supervisor, and concludes that the supervisor will do nothing effective
 3. Engineer exhausts all other reasonable internal procedures. Has consulted with the management chart as far up as possible

Ethicist's Motto

“You have the right to put yourself
(your job) at risk, but no one has
the right to put the public's health
and safety at risk.”

Code of Ethics

- Engineers, in the fulfillment of their professional duties, shall:
- **1) Hold paramount the safety, health, and welfare of the public**
 - If engineers' judgment is *overruled* and life or property is in danger, they shall notify authorities (**whistleblowing**)
 - Engineers should not reveal facts or data without prior consent from employer (**Don't give away trade secrets**)

Code of Ethics

- 2) Shall perform services only in the areas of their competence.
 - Engineers can only take on projects for which they are qualified by *education* or *experience* (*only work on stuff you know*)
 - Shall not sign any plans or documents dealing with subject matter in which they lack competence. (*Don't sign anything if you are clueless*)

Code of Ethics

- 3) Engineers Shall issue public statements only in an objective and truthful manner.
 - Shall be *objective* and *truthful* in all reports, statements, or testimony (don't lie to the media)
 - May express in public their technical opinions that are founded upon *knowledge of the facts* and *competence* in the subject matter. (base your opinions on facts)
 - Shall not issue statements or criticisms on technical matters that are *paid for* by interested parties (No infomercials)

Code of Ethics

- 4) Engineers shall act for each employer or client as faithful agents or trustees.
 - Shall tell employer about conflicts of interest (don't lie to your employer)
 - Shall not accept money from outside agents when working for their employer (don't accept bribes)

Code of Ethics

- 5) Engineers shall avoid deceptive acts.
 - Shall not falsify their qualifications (don't lie about your degrees or certifications)
 - Shall not offer any gift in order to secure work (don't bribe others)

Code of Ethics

- 5) Conduct themselves honorably, responsibly, ethically and lawfully so as to enhance the honor, reputation, and usefulness of the profession
 - Shall be guided by the highest standards of honesty and integrity (don't lie, cheat, or steal)
 - Shall at all times strive to serve the public (act for the benefit of others)
 - Shall not attempt to injure the reputation or employment of other engineers (be nice to other engineers)

Health and Safety Issues

- **There is not guidelines in the code of ethics for how to design safe and healthy technologies**
 - There is no hard and fast rules for how to design safe technologies
- **Don't necessarily know how healthy technologies are**
 - Cell phones → brain tumors?
 - Ipods → psychological disorders?
 - TV/video games → obesity?

Health and Safety Issues

- Safety is a tricky issue—how much do engineers leave to the users?
 - Guns—can't engineer guns so people can't shoot them at innocent people or themselves
- Can engineers be liable for the misuse of the technologies they design?