Sustainability of Technology

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Brandon Drusbasky

- Personal Life: I am an active person and enjoy meeting new people.
- Social Life: I enjoy spending time with my family and friends as much as I can.
- Material Life: I own very few material items that hold value to me such as my phone, laptop, and my motorcycles.
- Work: I currently work at a lumber yard during breaks from school. I hope to pursue a career in nuclear engineering.
- Leisure: I enjoy working out, working on cars and motorcycles, camping, and fishing.
- Political Life: I try to stay up to date on current political issues, and I also remain neutral on all political issues to avoid bias.
Personal Statement

- Personal Life: Enjoy spending time with my family and love being active. I'm an outdoors man and
- Social Life: Love to join pick up games of any sport, and enjoy hanging out with my friends on weekends
- Material Life: My most valuable items include my boat, waverunner, car, and my pocono house
- Work: Hope to achieve a degree in Aerospace Engineering
- Leisure: Favorite hobbies include playing baseball, wakeboarding, hiking, hunting, fishing, etc.
- Political Life: Enjoy staying informed on current political topics and debates
  - Read the news as often as possible to stay informed
Sarah Mong

- Personal Life: I strive to make new relationships with people.
- Social Life: I love to spend time with close friends and create new experiences for myself.
- Material Life: I am lucky to have many material items such as a car, nice house, and luxury technology such as a laptop, cellphone, tv, etc. I hope to provide these things for myself in the future.
- Work: I hope to pursue a career in biomedical engineering.
- Leisure: I enjoy working out and hope to remain active in the future.
- Political life: I like to keep updated about current issues and gather as much information as I can in order to establish my own beliefs.
Matt Sprouse

- Personal Life: I am very involved in the lives of my family and friends. I intend to always have a plethora of friends and a close family. People are an extremely large part of my life.
- Social Life: I enjoy spending time with groups of people and going out. I am also an avid traveler who enjoys visiting new places.
- Material Life: I enjoy many luxury material things such as vehicles, ATV’s, a boat, beautiful home, and the opportunity to travel to many different destinations. I hope to be able to provide this lifestyle for myself and my family when my parents no longer support me.
- Work: I ran a lawn service and auto detailing business, and also worked for a local auto dealership.
- Leisure: I enjoy swimming, golfing, traveling, spending time with friends, and relaxing.
- Political Life: I make an effort to keep up with current events and policies. I listen to both sides of the political spectrum in order to formulate my own beliefs with sufficient information.
Nuclear Fusion

- **Nuclear Fusion Positives**
  - Fusion is the process in which the sun operates in that it takes hydrogen atoms and forms them into helium atoms to produce energy.
  - On Earth the hydrogen used is deuterium and tritium, which is found abundantly in our oceans and can potentially be the best source of energy on the planet.
  - The power plants that would use fusion are zero emission plants and have significant less radioactive waste with some waste being radioactive up to 125 years, compared to the thousands years of spent fuel for fission reactors.

- **Nuclear Fusion Negatives**
  - The technology hasn’t been perfected.
  - The energy isn’t completely nuclear proliferation safe.
Food safety is a growing issue for and public concern.

To satisfy new demands for consumers a new technique called Hyperspectral Imaging has emerged.

Hyperspectral imaging combines both spectroscopy and imaging techniques to evaluate the chicken.

Imaging detects microbiological spoilage of the meat:
- Compares data to database and decides whether the meat passes regulations by the FDA.

Advantages:
- Technique allows a quick and efficient way to accurately detect and evaluate chicken meat quality.
- More efficient and versatile than other similar technologies.
- Does not harm the meat in any way.

Disadvantages:
- As with most technology it is fairly expensive:
  - Each unit ranges from $15,000-$30,000.
- Large systems that compromise productivity for business’s.

Hyperspectral Imaging (HSI)
Advances in medical technology lead to safer and more efficient medical treatments.

INTERCEPT blood system was designed to reduce the risk of transfusion-transmitted diseases.

Provides a way of clearing blood donations of pathogens

Rids platelets and plasma of nearly all possible infectious agents
  ○ a molecule capable of inserting itself into the DNA or RNA is introduced to the donated material, then the mixture is exposed to ultraviolet light.
  ○ mangles nucleic acids in viruses and bacteria preventing viruses from reproducing
  ○ does not harm the plasma or platelets

Designed to be efficient and compatible in all blood centers
As gas prices rise once again, multiple companies are looking at fuel efficiency and the use of electricity. The Tesla Model S has used technology available, due to engineering advances, to create a truly remarkable and unprecedented automobile.

- The AWD 85D variant of the Model S sedan can travel an average of 270 miles on a single charge. Keep in mind this an an AWD vehicle with 422 hp and a top speed of 155mph.
- Utilizes front and rear axle motors, instead of a traditional engine and transmission system.
- Faster acceleration, fewer mechanical items to malfunction, and no sacrifices in performance.
- 5-star crash test rating. Lack of an engine allows for a larger crumple zone. This spreads the force of a collision out over a larger period of time and allows for a greatly reduced risk of injury.
- In 2017, Tesla will launch the Model III. It will be priced at around 30-35 thousand dollars new, and will have a similar mileage range. The goal is to make this advanced technology more readily available to middle-class Americans.
- Similar in price to BMW 3 series or Mercedes-Benz C-Class.
Sources

Tyler Farra
- Penn State Data Base

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