**Topics**

* This is just a starting point for research and organization of our presentation. I was probably putting too much importance in the cohesiveness of our topics – feel free to change it up! Reflect updates as an outline on this doc so we all have an idea of the overall presentation.

Allen – History of technologies leading up to self-driving cars

1885 Karl Benz invented the automobile. Later that year, he took it out for the first public test drive and crashed into a wall.

For the last 130 years, we’ve made the car stronger, we’ve added seat belts, airbags, and in the last decade, we’ve actually started trying to make the car smarter in order to work around that a bug and least reliable part of the car, the driver.

For some time people have dreamed of a car that drives itself safely on the highway and city streets. While driving can often be a fun experience, Americans spend about 50 billion hours per year behind the wheel and much of that is not productive or very pleasant.

In the past, this idea has generally been considered to be science fiction. Now we are able to overcome scientific, engineering and social obstacles to making it a reality. Now many experts believe this technology is within our grasp, if we have the will to build it and embrace it.

- Talk history such as the 2005 and 2007 DARPA Grand Challenge which jumpstarted the automated car field

- Talk about companies such as Google's driverless car project

- Brief Overview of how self driving cars work

- The problems with today’s car driven by humans:

- The upsides of automated cars (brief list)

- Maybe briefly list the upcoming topics that you guys will talk about to transition

Drew – AI and its Technical and Ethical Impacts

Current State of Self-driving cars

Forecast for self driving cars

Compare and Contrast human v. AI driving abilities

Show data supporting these claims

Technical challenges of AI

Ethical Challenges of AI

Trolley problem

Implications on society and infrastructure

Impact on the status quo

Chi – Digital divide

Lyndon – Networking and issues with centralized control

* Self-driving cars have the potential to solve congestion and pollution problems. Controlled intersections would be a thing of the past, since a computer could manage cross traffic so well that intersecting traffic could pass between the spaces of of cars in the same lane (visual aid here). On the freeways, a computer could effectively manage a smaller distance between cars at higher speeds, increasing freeway capacity and eliminating traffic jams, drastically shortening drive times and the ecological impact of traffic. One necessary ingredient for this to work is a network that allows all cars to communicate. Who would be responisible for maintaining such a system? The automobile manufacturers themselves wouldn’t be able to, since a singular entity is needed to guarantee accounting of all vehicles on the road. Allowing one company to manage this is essentially handing them a monopoly. Moreover, control over all moving traffic is a major homeland security concern. An exposed vulnerability in such a system could result in the most damaging attack imaginable – a complete shutdown of all roadways and risk of immediate death by collision for millions of daily commuters. With such a security concern, the governament would have to take charge of this self-driving network. This creates a major privacy versus security concern. GPS vehicle tracking currently isn’t legal in the US (provide link to ruling here). That hasn’t stopped law enforcement from tracking the general movement of automobiles using dragnet license plate scanning (visual aid for how this works here). GPS tracking is a prerequisite component to a self-driving car network, and we would essentially be handing detailed information about our real-time location and habits to the federal government. This is a lot of power to willingly hand over, and it’s important to consider whether it’s worth the trade-off. Would you rather sit in traffic and have more freedom, or never worry about traffic again and be immediately cited every time you sped (link to survey here)? While I’m speed racer on the road, I realize that traffic is an exponentially incresing problem, and I’d be willing to change my ways for a solution.

Alaysia – Fault (responsibility, liability, accountability) and how this will effect insurance, licensing, etc.