

NURSELINK: AN IN-HOME NURSING APPLICATION

**DIFFUSION OF AUTONOMOUS VEHICLES AND ISSUES THAT COME WITH
ADOPTION**

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SOCIOTECHNICAL SYNTHESIS

In order for NurseLink to be successful there will need to be significant advertising and demonstration of why the application is useful, similarly to how autonomous vehicles (AV) need to communicate their benefits to society. NurseLink tackles a major shortcoming in the healthcare industry, the lack of easily and cheaply available in-home nurses. This is a problem that many people do not think about until they are in need of an in-home nurse and could benefit many people if the technology existed and they knew about it. Communication of NurseLink is key to its success, similar to AV's reliance on communication. There are many impediments that will decrease the rate at which AVs will become widespread in society, which may be increased with proper communication of benefits. There are also moral implications for slow diffusion of the technology. These are both technologies that require increased communication of the benefits to become successful.

There is a need for experienced nurses to care for people and administer medications in their homes. It can be tiring for family members to spend all of their time helping and caring for relatives, so hiring these nurses can relieve a lot of stress. To find these medical professionals, patients and caregivers rely on either word of mouth or existing agencies. Agencies charge additional fees and act as a middleman. Additionally, these agencies do not allow patients to browse available nurses and directly contact them to instantly inquire about rates and availability, which could be problematic if a patient needs assistance unexpectedly due to a sudden illness or injury. The high cost and long turnaround time associated with current nurse agencies creates a gap in the market that NurseLink hopes to fill.

NurseLink was completed in the scope that was discussed at the beginning of the project. The application allows the user to search and view nurses in their area, message each other, complete payments, and rate nurses. NurseLink is a useful solution because it improves the efficiency of hiring medical professionals, reduces the overall cost, and provides patients with a greater selection of medical professionals from which to hire.

There will be many obstacles that will make diffusion of autonomous vehicles very difficult especially in rural and low-income areas. There will also be problems with incomplete adoption of the technology. The process at which the technology is adopted can be sped up, so there will not be a disparity in AV usage across demographics. Previous records and experiences of AV in our current society are used in the analysis of these topics. AVs have been steadily improving over the years, so insight can be gained in the early years of adoption. Additionally, electric vehicles and their difficulties can be used as a comparison to AVs. Social Construction of Technology (SCOT) and Diffusion of Innovation are frameworks that will assist in the research of these topics. SCOT will be used to help determine how regulations and 3rd party evaluations will affect the development of AVs.

Diffusion is slow for a technology like AV because people have a lack of trust in computers making decisions possibly jeopardizing their life. Many people do not see the benefits of the technology and the possible increase in safety. This combined with the price of the technology, causes a lack of adoption in lower income areas, especially areas that would have trouble with infrastructure maintenance. The moral consequences of this have to do with crash algorithms and low-income being unfairly treated in some crash scenarios. In order to speed up

the rate of diffusion, a third party must evaluate the safety of the technology and communicate to the public the advantages of AV usage.

The limiting factor for AV usage is society's view of the safety and the cost of the technology. Increasing awareness through communication and advertisements will increase the number of people adopting the technology. NurseLink relies on a similar principle of proving the usefulness to people especially in a niche market like in-home nurse care.

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