

Artificial intelligence planning has had many applications over the years. The techniques in this realm have been used in classical planning, control theory, and theorem proving.[2] There have obviously been numerous advancements, both big and small, that have gotten us to this point. In this research review, we focus on three such advancements: the **STRIPS** algorithm, the **GRAPHPLAN** algorithm, and optimizations to **GRAPHPLAN**.

The first big advancement in this area was the **STRIPS** algorithm. **STRIPS** was developed as planning algorithm for a mobile robot that could navigate and push objects around in a multi-room environment[1]. Although this was just one part of the “Skey the robot” project, it established the foundation of classical planning terminology. For example, all the propositional logic we used in the project was originally used in the **STRIPS** algorithm[3]. However, this algorithm had limitations: it assumed that actions could be applied one at any time, that nothing changed except as a result of the actions, and that actions were instantaneous[1]. Of course these assumptions are not a realistic model of the world we occupy and it was shown that **STRIPS** could not solve some relatively simple problems[2]. This led to some other advancement that eventually lead us to **GRAPHPLAN**.

## References

- [1] Richard E. Fikes and Nils J. Nilsson. Strips, a retrospective. *Artificial Intelligence*, 59, 1993.
- [2] Stuart Russel and Peter Norvig. *Artificial Intelligence: A Modern Approach*. Pearson Education, Inc., 3rds edition, 2010.
- [3] Daniel S. Weld. Recent advances in ai planning. *AI Magazine*, 20(2), 1999.