SCOUT: A Case-Based Reasoning Agent For Playing Race For The Galaxy

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Race for the Galaxy (RftG)

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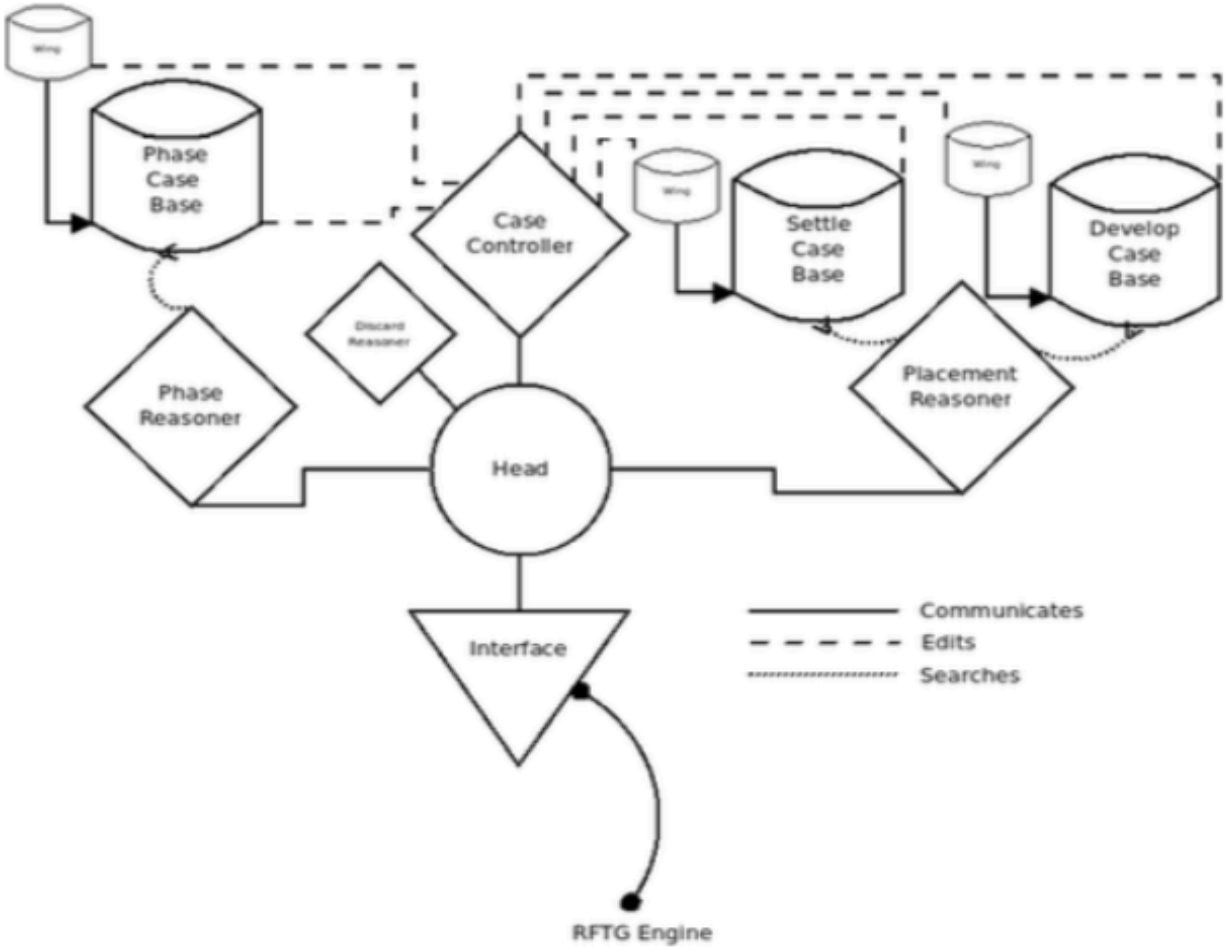
- A "Eurogame" combining elements of card and board games

- https://en.boardgamearena.com/#!gamepanel?game=raceforthegalaxy

Race for the Galaxy (RftG)

- 2 – 6 players
- 95 cards dealt randomly
- Aim is to build the best empire from cards
- Significantly more complex than chess
- Similar to real-time strategy games
- Aim to build a Case-Based Agent
- Compare against Keldon AI Agent & human players

SCOUT architecture



Based on TIELT (Molineaux & Aha, 2005)

The University of Auckland

Results

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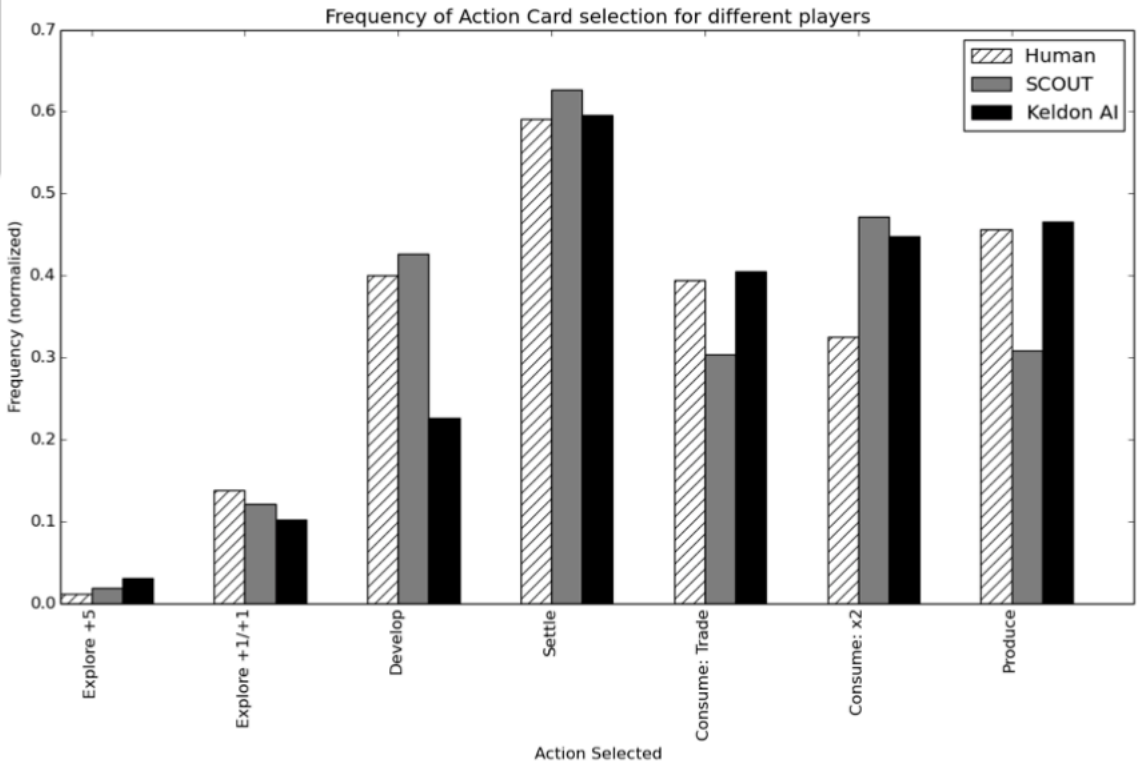
Against a reference set of 5,000 games

Full controlling agent	Victory rate
SCOUT2	30.2%
Keldon AI	51.0%
Random	0.04%
Human	74.8%

SCOUT's score against Keldon was often very close.



Conclusion

- A simple k-NN CBR system can play RftG
- Not close to humans but nearly as good as the established Keldon AI
- case-base comprises 748 games where a human won
- Useful to store cases were the human lost to avoid mistakes
- Humans play more strategically