

Notes from lecture 6 (from the students) presented at the end of the lecture:

## **Paper: Using N-Gram Statistical Models to Predict Player Behavior.**

1. Group:

Essence of the paper: Prediction of future moves based on past sequences of moves.

Motivation: To make more realistic AI in games based on realistic prediction of player's behaviour, given that not all events are not equally likely to occur.

AI Methodologies: Preparing a 'corpus' of past moves by observing player behaviour.

What we've learnt from this paper: Simple straightforward and effective means of more realistic behaviour. Easily updatable/ adaptive in real time.

Summary: N-Grams provide a simple and easy way to predict human behaviour. Expensive in terms of memory with large number of moves or N is large.

2. Group:

Essence: teach opponents how to learn.

Motivation: like human speech, behaviour of game player have local structure properties.

Methodology: Basic training, Induction.

Learned: Local context is difficult to specify.

Summary: simple way to predict .....

## **Paper: Practical Natural Language Learning**

Only one group:

1. Natural Language Model/ interface in games.
2. Remove predictability -> surprise.  
Believable and intelligent.  
Better game world.
3. Markov Model  
Probability and observation(User Input).  
Keywords  
Frequency/ Weighted Probabilities(Context)  
Base data  
AI markup language-> recursive and keywords.
4. Potential for language  
Basic methods (as above).
5. Players expect more from games and natural language is a way to deliver (with surprises).  
Frequency+ Probability + Keywords Markov based model can achieve language independent implementations.