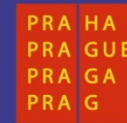




OPERAČNÍ PROGRAM PRAHA
ADAPTABILITA



EVROPSKÝ SOCIÁLNÍ FOND

Pogamut 3 Promo

PRAHA & EU
INVESTUJEME DO VAŠÍ BUDOUCNOSTI

Faculty of Mathematics and Physics
Charles University in Prague
21st February 2013



UT2004 bots made easy!

Pogamut 3 – NAI Lo68 Practice

Lecture Zero – Promo



Practice Lessons

Outline

1. Themes
2. Concrete Topics
3. Challenges
4. When/Where/Terms



Practice Lessons

(1/4) Themes



Practice Lessons

(1/4) Themes - Real Virtual Worlds



Practice Lessons

(1/4) Themes – UT2004



Practice Lessons

(1/4) Themes – UT2004



Practice Lessons

(1/4) Themes - UDK



Practice Lessons

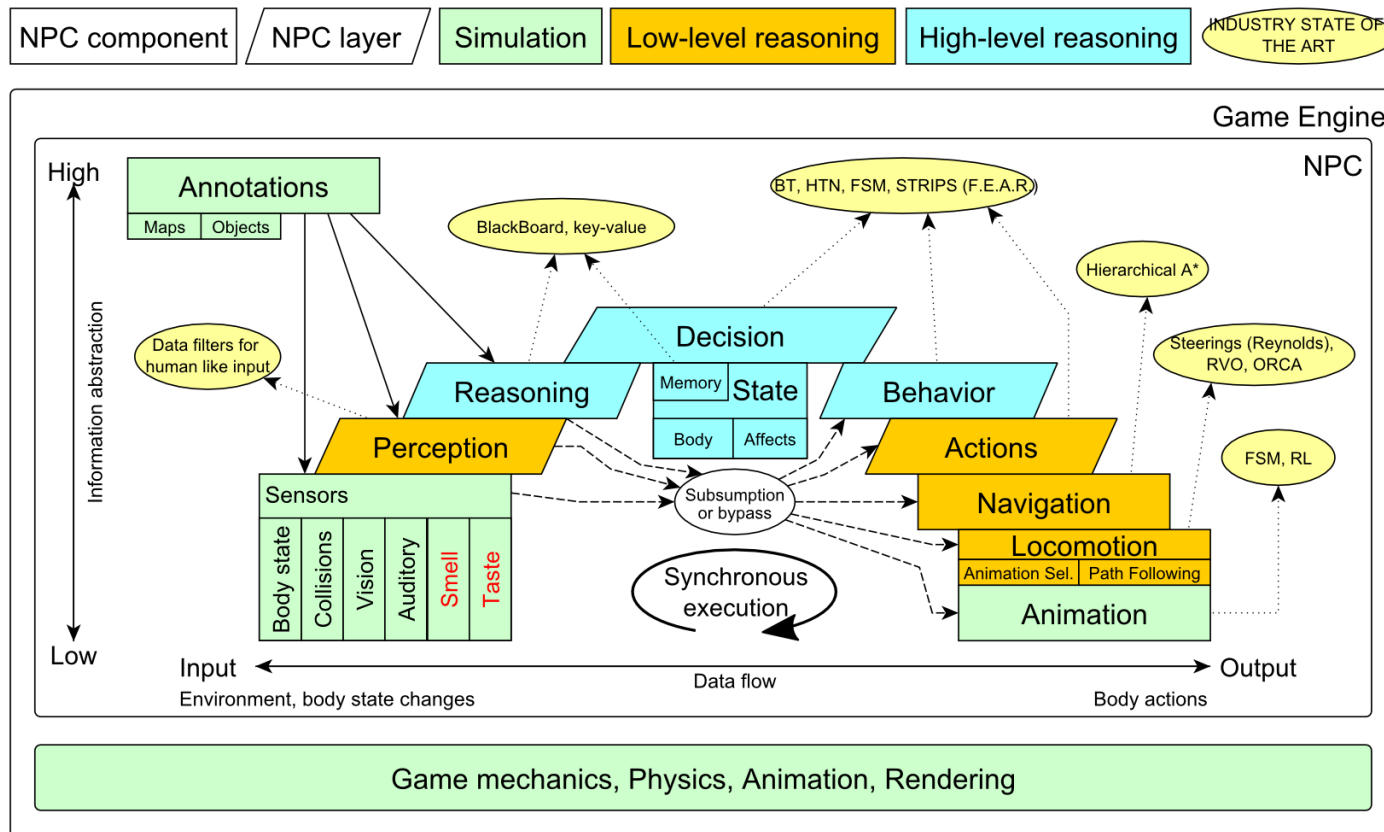
(2/4) Topics



Practice Lessons

(2/4) Topics – GameAI as SoftEng

1. Virtual Mind / Body / World



Practice Lessons

(2/4) Topics – Decision making

2. If-then / FSM / Behavior tree

The image displays a game engine interface with two main panels. The left panel shows a behavior tree with nodes and actions. The right panel shows a code editor with Java code.

Behavior Tree:

- fail (green bar)
- stay (orange bar) → health (green bar)
- Action → doNothing (blue bar)
- hit-wall (orange bar) → hit (green bar)
- Action → jump (blue bar)
- run-healths (orange bar) → succeed (green bar)
- Action → runMedkits (blue bar)

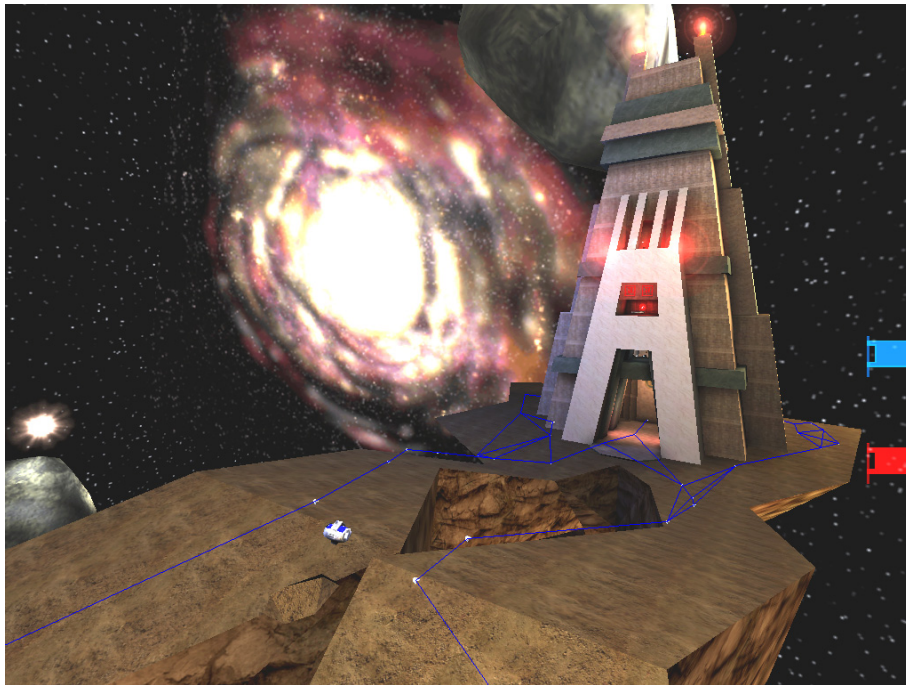
Code Editor:

```
RunMedkits.java
Source History
17 @PrimitiveInfo(name = "runMedkits", description = "Run around
18 public class RunMedkits extends StateAction<UT2004Context> {
19
20     @Override
21     public ActionResult run(VariableContext params) {
22         //if (true) return true;
23
24         Item item = ctx.getFwMap().getNearestItem(
25             ctx.getItems().getSpawnedItems(ItemType.Category.
26             ctx.getInfo().getNearestNavPoint()
27         );
28
29         if (item == null) {
30             ctx.getLog().severe("No known spawned pickup!");
31             ctx.getNavigation().stopNavigation();
32             return ActionResult.FAILED;
33         }
}
```

Practice Lessons

(2/4) Topics – Navigation

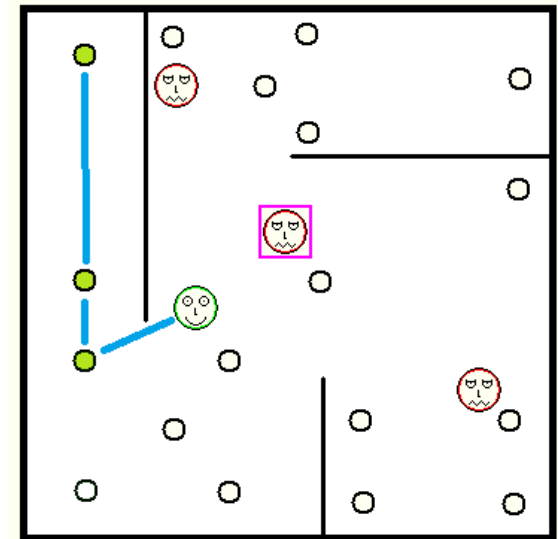
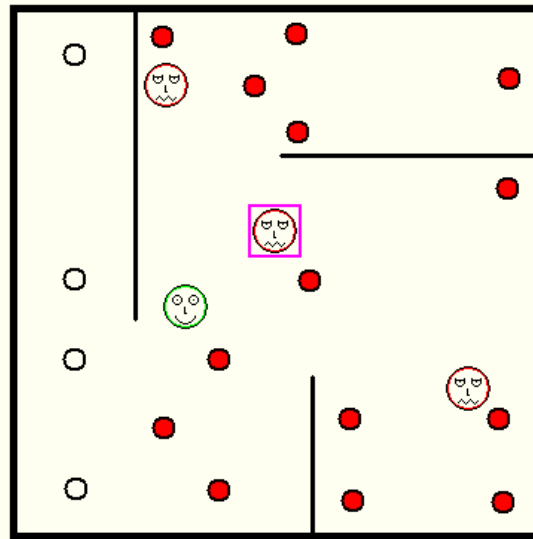
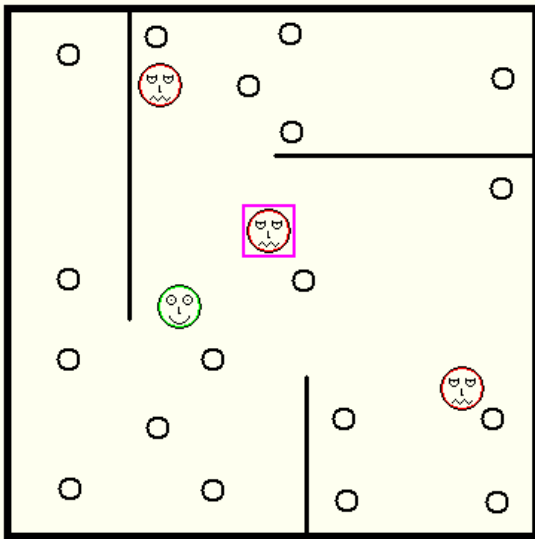
3. Path Finding / Following / Steering



Practice Lessons

(2/4) Topics – Smart Path Finding

4. Advanced A* use



Practice Lessons

(2/4) Topics – 1+1+1 < 3

5. Single agent / Team



Practice Lessons

(2/4) Topics – Some extra?

6. ???

Practice Lessons

(2/4) Topics – Some extra!

6. PogamutCup 2013, 14k prize money, 16.5.2013
www.pogamutcup.com

Home
Jak se zúčastnit?
Kontakt
O turnaji
Pravidla turnaje
Pro účastníky
Předběžná přihláška
Tým
▼ Výsledky [!]
Battles
Bots
Bots - Sources
Replays
Tabulka
Turnaj

Turnaj je za námi, zvítězil tým Gauner and Frei ze ZČU Plzeň. Více viz Výsledky

Děkujeme všem zúčastněným a s nadějí vyhlížíme na budoucnost a opakování této akce.

Pogamut Cup je turnaj počítačem ovládaných agentů (botů) v prostředí Unreal Tournament 2004 v módu deathmatch. Turnaj pořádá Informatická sekce Matematicko-fyzikální fakulty Univerzity Karlovy v Praze přesněji výzkumná skupina AMIS. Vlastní soupeření proběhne 29. 11. 2012 v rámci dne otevřených dveří MFF-UK v sídle inforatické sekce na Malostranském



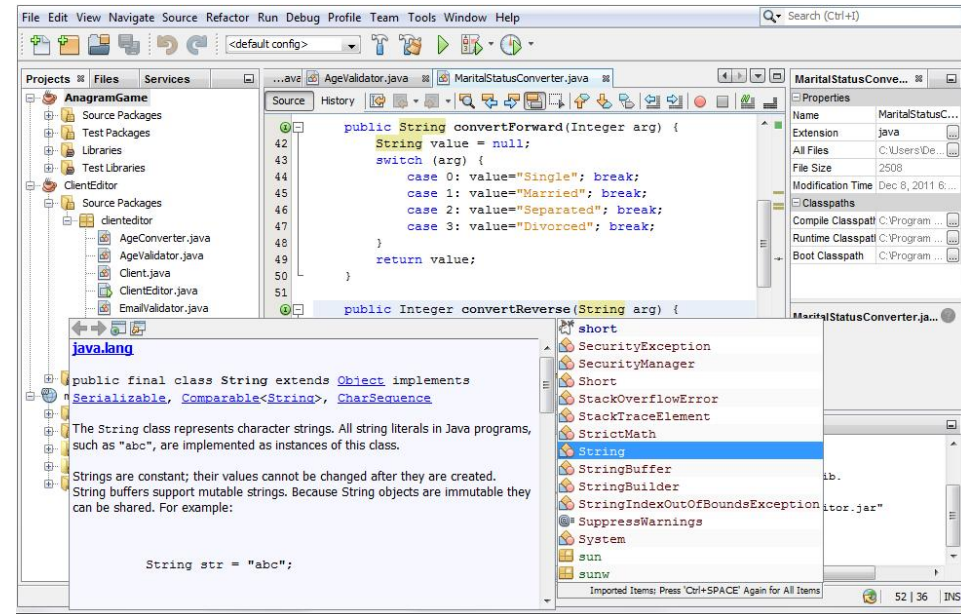
Practice Lessons

(3/4) Challenges



Practice Lessons (3/4) Challenges

1. Java (+NetBeans/Eclipse, SVN, Maven)



Practice Lessons

(3/4) Challenges

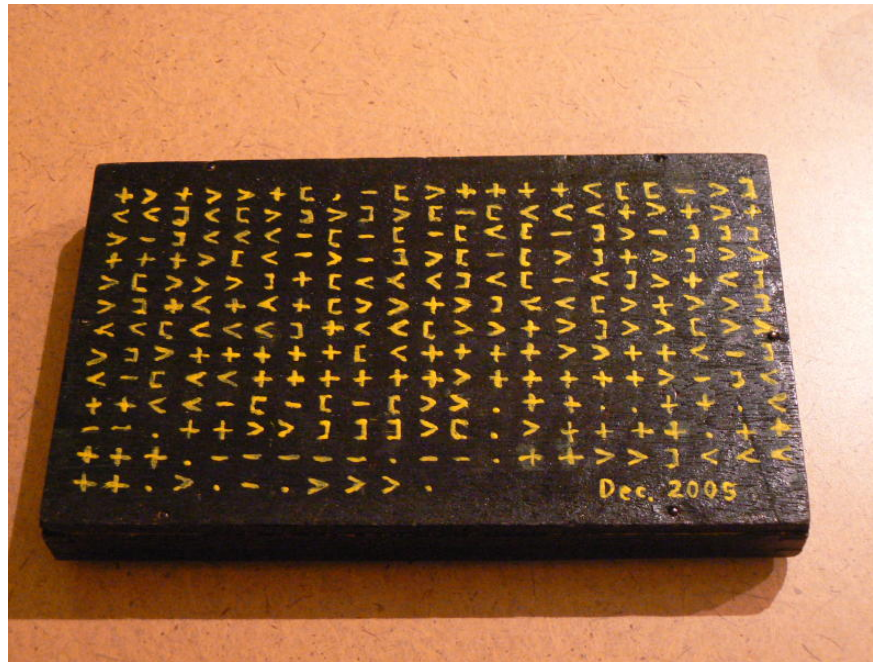
2. Different programming



Practice Lessons

(3/4) Challenges

2. Different programming



...more thinking, less writing, more trying, brain teasing debugging.

Practice Lessons

(3/4) Challenges

3. PogamutUT2004 - Big complex fishy alien Java library that has roots in stinky UnrealScript

Practice Lessons

(3/4) Challenges

3. PogamutUT2004 - Big complex fishy alien Java library that has roots in stinky UnrealScript

*When you'll be looking at
PogamutUT2004 API...*

Practice Lessons

(3/4) Challenges

3. PogamutUT2004 - Big complex fishy alien Java library that has roots in stinky UnrealScript

*When you'll be looking at
PogamutUT2004 API...*



Practice Lessons

(3/4) Challenges

3. PogamutUT2004 - Big complex fishy alien Java library that has roots in stinky UnrealScript

*... feeling from the
debugging of UT2004
bots.*

Practice Lessons

(3/4) Challenges

3. PogamutUT2004 - Big complex fishy alien Java library that has roots in stinky UnrealScript

... feeling from the debugging of UT2004 bots.



Practice Lessons

(3/4) Challenges

4. Tournaments!



Practice Lessons

(4/4) Where, When, Terms

1. Umělé bytosti 2/2
2. Cvičení: SW1, Po 1400-1530, Čt 1720-1850
 - Začínáme příští týden v pondělí!
3. Pondělky – Jakub Gemrot
 - jakub.gemrot@gmail.comČtvrtky – Michal Bída
 - michal.bida@gmail.com
4. Zápočet
 - Během semestru nasbírat 152 bodů
 - Prezence, testíky, domácí úkoly, turnaje
 - Udělat zápočtový test (2 hodiny kódění)

Practice Lessons

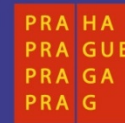
Hope to see >YOUR< bots soon!



<http://pogamut.cuni.cz>



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DĚKUJI ZA POZORNOST



Evropský sociální fond
Praha & EU: Investujeme do vaší budoucnosti