

Faculty of mathematics and physics  
Charles University at Prague  
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UT2004 bots made easy!

# Pogamut 3

Lecture 6 – CTF, POSH



# Warm up!

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Fill the test for this lecture!

# Home work: POSH hunter bot

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Let's review home works from previous lectures!

# Today's menu

## 1. Capture the Flag (CTF)

- Rules of the game type

## 2. Modules of interest

- Pogamut modules facilitating development of the CTF bot.

## 3. Task: Making a CTF bot using POSH

- POSH bot maven project archetype

# CTF rules

- Players/bots are divided into two teams (red and blue).
- Each team has a flag in his base.
- The goal of the team is to capture the flag of the opposite team and bring it to their home base.
- When managed, the team scores 1 point.
  - Team can only bring opposite flag home and score a point, if the team flag is in team home base!
- If the flag is dropped it will be returned to home base after some time.

# Pogamut CTF support

- **What team I am in?**
  - `info.getTeam();`
- **Where is my base?**
  - Team 0 -  
`game.getGameInfo().getRedBaseLocation();`
  - Team 1 -  
`game.getGameInfo().getBlueBaseLocation();`
- **Am I winning?**
  - `game.getTeamScores();`
  - `info.getTeamScore();`

# Pogamut CTF support II

- **I want my flag!**

- Flag is represented by FlagInfo object.
- `game.getCTFFlags();`
- `FlagInfo myFlag =  
game.getCTFFlag(info.getTeam());`

- **Is someone messing with my flag?**

- `myflag.getState().toLowerCase()` returns "held", "dropped" or "home"
- `myflag.getHolder()` exported only if flag is visible!

# Launching CTF game

```
C:\Games\UT2004\System\ucc server CTF-  
FaceClassic?game=GameBots2004.BotCTF  
Game
```



# POSH bot archetype

*GroupId:*

cz.cuni.amis.pogamut.ut2004.examples

*ArtifactId:*

07-sposh-prey-bot-archetype

*Version:*

3.2.1-SNAPSHOT

*Repository:*

<http://diana.ms.mff.cuni.cz:8081/artifactory/repo>

# Assignment (or HomeWork)

- Create your own CTF bot in POSH!
  1. Provide item collector behavior
  2. Provide simple combat behavior
  3. Provide CTF behavior
  4. Try to balance priorities / parameters!
  5. Can you make the bot so good, he will beat you? (with highest skill level set)
- Use map CTF-FaceClassic
  - Beware of tricky teleporters – the actual distance between two points doesn't have to be the best measure of what is close!
- Note – translocator does not work for the bots.

# Assignment (advanced)

- Create two bots playing CTF and cooperating with each other.
  - Think about how to exchange information.
  - Will you use text message? Or some implicit cooperation (he is around flag, he is defending)? Or some custom shared object?
- Use Java or POSH.
- Use map CTF-FaceClassic

# Send your assignments to

- Completely zip-up your project(s) folder
- Send it to:
  - Jakub Gemrot (Friday practice lessons)
    - [jakub.gemrot@gmail.com](mailto:jakub.gemrot@gmail.com)
  - Michal Bída (Wednesday practice lessons)
    - [michal.bida@gmail.com](mailto:michal.bida@gmail.com)