



Problems:

- Parameter passed through 4 levels
 - Every constructor polluted with **manager** parameter
- Refactoring nightmare: change affects **6+** files
 - Team collaboration conflicts

Level 0

Main
new GameEngine()

**No
Parameter
Passing!**

Level 1

GameEngine
GameEngine()

Level 2

GameLogic
GameLogic()

getInstance()

GameManager
getInstance()

Level 3

NPC
NPC()

Coin
Coin()

Solutions:

- **Zero** constructor parameters!
- Direct access via `getInstance()`
- Easy refactoring: change only GameManager
 - Clean, maintainable code