ANAFO

Project InterDimension

Karavela Bilişim
Who we are…

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What we will talk about...

• Project Definition
• Analysis Process
• Game Concept Design
• Design Considerations and Methodology
• Overall Architecture
• Current Progress
What we will NOT talk about...

• Detailed UML Diagrams
• Minimum Hardware Requirements
• GUI Screenshots
Project Definition

• 3D Arcade Adventure Game
  – Single Player
  – AI and Script controlled NPCs
  – Advanced Interactive Puzzle Content
  – Inventory Management
  – Semi-linear Game Flow
First Steps...

- Feature Search of Current Popular Games
- Literature Survey and Technical Analysis
- Meeting with a Game Developer
- Survey and Result Evaluation
Our Survey

• General Aim
• Methodology
• Results
Game Design: Scenario Revealed...

STORY BOARDING
Why ANAFOR?

• Everything happening around the hero takes him deeper and deeper into darkness without his own will, likewise a poor helpless thing in a whirlpool.

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Game User Interfaces

- Game Menu
- Heads Up Display
- Dialog Screen
- Inventory Menu

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Game Play

• Character:
  – Solve puzzles by interacting with objects and the environment
  – Fights using his fist, a stick or a weapon
• Mouse and Keyboard Control
• Inventory usage
• Dialogs with NPCs

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Design Considerations...

- Reliability
An exception 06 has occurred at 0028:C11B3ADC in \x0D DiskTSD(03) + 00001660. This was called from 0028:C11B40C8 in \x0D voltrack(04) + 00000000. It may be possible to continue normally.

* Press any key to attempt to continue.
* Press CTRL+ALT+RESET to restart your computer. You will lose any unsaved information in all applications.

Press any key to continue
Design Considerations...

- Reliability
- Platform Independence
- Reproducibility
- Modularity
- Usability

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Design Methodology...

- Design Patterns
  - Abstract Factory
  - Adaptor
  - Mediator

- MVC

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Overall Architecture

BORAN Game Engine:

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• Heart of the game
• Responsible for synchronous coordination of other sub-systems
• Manage initializations of other sub-systems
• Manages game state
Physics Engine

- Applies real world physics to objects in the game and calculates dynamics of the objects
- Detects and processes collisions
• A kind of communication layer between some other sub-systems, routing relevant events to related parties
- According to its inputs, decides future reactions of NPCs
- Decisions are given by using predefined rules and simple algorithms
- Can be customizable for different levels
- During run-time, this engine can run any code likewise a native code without a need to recompile all the game
- Makes the game easily extensible
- Allows running different codes for different levels
- Each data stored in a file is a member of this sub-system
- Through a proper interface manages the data transfer
- Creates realistic models
- Produces realistic animations for characters
- Provides smooth pass from one animation to another
• Processes required camera view angle calculations
• Provides different view modes
- As an output sub-system, emits proper sounds for the game
- Proper sounds are decided according to the events those occur during the game
• At each frame, renders the whole scene by processing its inputs and making the proper calculations

• Considers visibility information while rendering
• Low level input/output layer to the operating system
• Patches user inputs generated by controllers and generates proper messages
Current Progress

• No UI, But …

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Any Questions?

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