Anatomy of a role playing game

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Description

- Humanity's robots have turned against it
- Isometric 3D role playing game
- Real time action
- Roleplaying through dialogs and quests
- Minigame turning on enemies to your side
Facts

- Fully playable on many platforms
- 12h of fun
- 60 non playing characters to chat with
- 50,000 words of dialogs
- 14 original music tracks
- 75 downloads a day from Sourceforge.net
Demo video
Project goals

- Be enjoyable by kids and adults alike
- Support most platforms and hardware
- Single player
History

2002

FreedroidRPG started by Johannes Prix
History

Arthur takes charge of the project in 2004.
History

2007

0.10.1 introduces translation support
History

2009

Feb - FOSDEM lightning talk about FreedroidRPG

Dec - Translations removed in 0.13
History

Aug - Google Summer of Code with 3 students
- level editor improvements
- random dungeon generator
- item upgrade mechanism

Nov - 0.14, richer, faster, nicer
History

Aug - Google Summer of Code with 4 students
- 2D GUI refactoring
- OpenGL performance improvements
- script engine improvements
- level editor improvements

Dec - 0.15 is released, improvements all across the board
Game world

- Coordinate system
Game world

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Game world

- Coordinate system
- Floor tiles
Game world

- Coordinate system
- Floor tiles
- Obstacles
Game world

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- Obstacles
Game world

- Coordinate system
- Floor tiles
- Obstacles
- Actors
Game world

- Coordinate system
- Floor tiles
- Obstacles
- Actors
- Bullets, explosions
- Events
- Dropped items
FreedroidRPG modules

- Actions
- World simulation
- Display
FreedroidRPG modules

Actions

World simulation

Display

Gameplay rules

Hit/miss  XP  Damage
FreedroidRPG modules

- Actions
- World simulation
- Display

Gameplay rules:
- Hit/miss
- XP
- Damage

Physics:
- Pathfinding
- Movement
- Collision detection
FreedroidRPG modules

- Actions
- World simulation
- Display
  - 3D world
  - 2D GUI
    - SDL
    - Open GL
  - Draw
Good design points

- Dual OpenGL et SDL support
Good design points

- Dual OpenGL and SDL support
- Lua interface for scripts and dialogs

```c
int lua_event_teleport_npc (lua_State *L)
int lua_event_display_big_message (lua_State *L)
int lua_event_display_console_message (lua_State *L)
int lua_event_enable_trigger (lua_State *L)
int lua_event_disable_trigger (lua_State *L)
int event_change_obstacle_type (const char *obslabel, int type)
int lua_event_change_obstacle (lua_State *L)
int lua_event_get_obstacle_type (lua_State *L)
int lua_event_delete_obstacle (lua_State *L)
int lua_change_obstacle_message (lua_State *L)
```
Good design points

- Dual OpenGL et SDL support
- Lua interface for scripts and dialogs
- Easy internal savegame mechanism

```c
struct my_struct {
    int a;
    float b;
    char c[32];
}

void read_my_struct(luastate *L, struct my_struct *data) {
    // Read "a"
    data->a = read_field(L, "a");
    // Read "b"
    data->b = read_field(L, "b");
}

void write_my_struct(struct auto_string *str, struct my_struct *data) {
    // Save "a"
    save_field(str, data->a);
}
```
Mistakes and problems

- Continuous coordinate system for obstacles
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- Continuous coordinate system for obstacles
- Lighting algorithm
Mistakes and problems

- Continuous coordinate system for obstacles
- Lighting algorithm
Mistakes and problems

- Continuous coordinate system for obstacles
- Lighting algorithm
- Very little automated testing
Remaining questions

Translations

Savegame compatibility

Level editor
http://www.freedroid.org/

#freedroid on irc.freenode.net

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