

# **Herní mechaniky jako jazyk digitálních her**

**...od designu k výzkumu a vyprávění**

**Zdeněk Záhora**

Steam

25.10.2016

release



*Dark*

*Train*

**06T7F-24BZ6-WD5WL**









**Lukáš Haládik**  
**(Bohemia Interactive,**  
**exEA)**

**Game design**  
**přijímací pohovor**  
**nanečisto**

**?**

design

-  VIKMB31-digitalni-hry-01 - herni mechaniky I, MDA
-  VIKMB31-digitalni-hry-02 - herni mechaniky II, analyza
-  VIKMB31-digitalni-hry-03 - workshop I (game design)
-  VIKMB31-digitalni-hry-04 - herni mechaniky III, pravidla

výzkum

# design – výzkum – vyprávění

- *problém*
  - *(ne)znalost jazyka média*
  - *terminologický šum*
  - *nízká spolupráce vývoj x výzkum*
  - *nízká kvalita studentských prací*
  
- *úhly pohledu*
  - *výzkumník*
  - *student*
  - *vývojář*

# Jazyk vývojáře

- „obstakl“
- „enemák“
- „aset“
- obtížnost
- varianta herní situace
- „prefab“
- příběh
- náhoda, pravděpodobnost
- gameplay

# Jazyk výzkumníka

- prostorový objekt
- herní entita
- herní objekt (model, textura...)
- obtížnost
- iterace instance / variabilita
- herní objekt
- příběh; narativ
- emergence
- gameplay



# text > hypertext > cybertext > game analysis (AARSETH, 2003)

To generalize, we have several types of sources for our non-playing analysis:

- Gameplay (the players' actions, strategies and motives)
  - Game-structure (the rules of the game, including the simulation rules)
  - Game-world (fictional content, topology/level design, textures etc.)
- previous knowledge of genre
  - previous knowledge of game-system
  - other players' reports
  - reviews
  - walkthroughs
  - discussions
  - observing others play
  - interviewing players
  - game documentation
  - playtesting reports
  - interviews w/game developers

# Game Ontology Project (ZAGAL a spol., 2005)

Table 1: Example Ontology Entry - "To Own"

<b>Name</b>	To Own
<b>Parent</b>	Entity Manipulation
<b>Children</b>	To Capture, To Possess, To Exchange
<b>Description</b>	<p>Entities can own other game entities. Ownership does not carry any inherent meaning, other than the fact that one entity is tied to another. Changes in ownership can not be initiated by the owned entity. Ownership can change the attributes or abilities of either the owned or owning entity. Ownership can be used to measure performance, either positive or negative. Ownership is never permanent; the possibility of losing ownership separates ownership from an inherent attribute or ability of an entity. Ownership of an entity can change in variety of ways, including voluntary and involuntary changes of ownership.</p> <p>It is important to note the difference between owning an entity, and using an entity. For example, in <i>Super Mario Bros</i>, when Mario collides with a mushroom, the mushroom is immediately used and removed from the game world. Mario never owns the mushroom.</p>
<b>Strong Example</b>	In <i>Super Mario World</i> Mario can collect mushrooms (or fire flowers or feathers) to use later. Mario owns these entities and can make use of them later.
<b>Weak Example</b>	In <i>Ico</i> , the player character must protect a girl called Yorda. While the player only directly controls Ico, his actions are very closely tied to leading, guiding and protecting Yorda. One could argue that Ico, in effect, owns Yorda because of the way they are tied to each other.

100



287



2,922



0

0000100

ServiceRobot

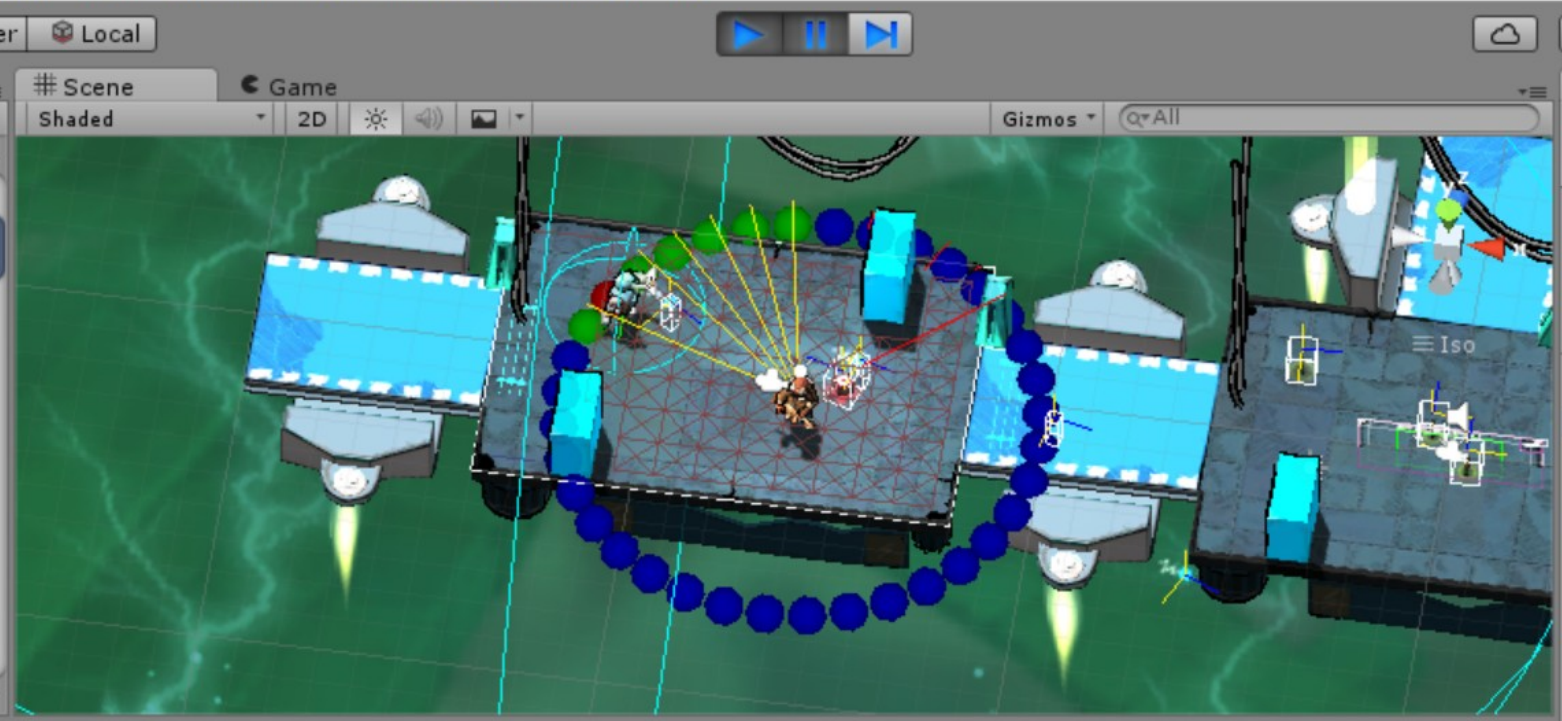


ms.168.32FPS

Hierarchy

Create

- Pool:spr\_IconBoss
- Pool:spr\_IconArena
- Pool:spr\_IconHealthPack
- Pool:spr\_IconBonus
- POOL:CoinPickup
- POOL:HealthPickup
- POOL:Hit
- POOL:CriticalHit
- POOL:Score
- POOL:Heal
- Pool:Collectibles
- \_Ground
- Pool:Bridge
- Bridge(Clone)
- bridge
  - bridge\_frame
    - bridge\_electro\_emmitter\_L
    - bridge\_electro\_emmitter\_r



Inspector

\_AudioController

Tag Untagged Layer Def

**Transform**

P	X	1.093837	Y	0.5136955
R	X	0	Y	0
S	X	1	Y	1

**Audio Controller (Script)**

Global Audio Settings

- Additional Audio Controller
- Persist Scene Loading
- Disable Audio
- Volume 100
- Audio Object Prefab  AudioCl
- Use Pooled AudioObjects
- Play With Zero Volume

Music & Playlist Settings

- Playlist
- Add to Playlist
- Loop Playlist
- Shuffle Playlist
- Crossfade Playlist
- Separate crossfade in/out
- Music Crossfade Time 0
- Delay Betw. Playlist Tracks 1

Project

Console

Create

- PhysicMat
- PlayMake
- Plugins
- Prefabs
  - Bullets
  - Collect
  - Effects
  - Enemie
  - Enviror
  - GameC
  - Ground
  - GUI
  - Player
  - Special
- Projected

Assets > Prefabs > GameControls

Asset icons: \_AssetDow..., \_AudioCont..., \_Game, \_InitGame, AudioClipO..., FloorControl

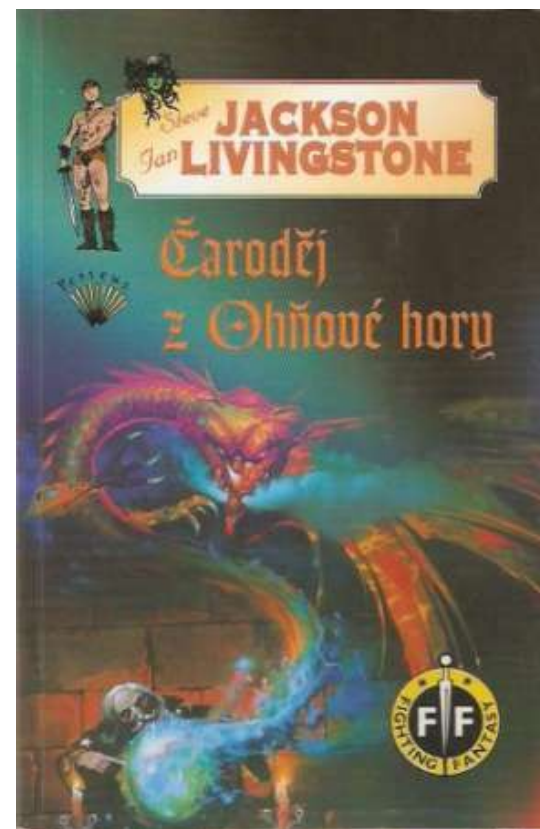
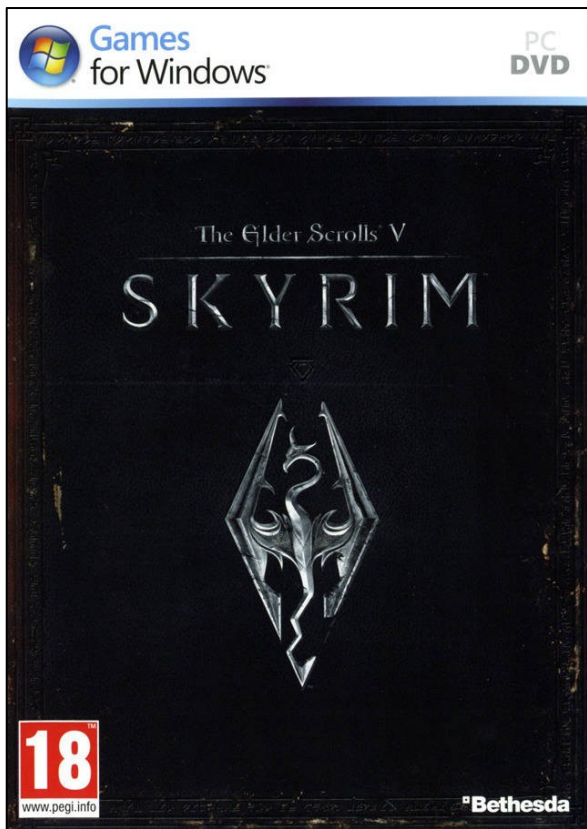
AudioController.prefab

Asset Labels

AssetBundle None

```
1 <?xml version="1.0" encoding="utf-8" ?>
2 <!-- 9 -->
3 <floor roomCount="10" gridSize="(10,10)" startRoomPosition="(4,5)">
4   <name>Medium Floor 03</name>
5
6   <difficulties>
7     <difficulty difficulty="0" level="(1,1)" />
8     <difficulty difficulty="230060101" level="(2,3)" />
9     <difficulty difficulty="230060102" level="(2,4)" />
10    <difficulty difficulty="230060103" level="(3,5)" />
11    <difficulty difficulty="230060104" level="(3,6)" />
12    <difficulty difficulty="230060105" level="(3,7)" />
13    <difficulty difficulty="230060206" level="(4,8)" />
14    <difficulty difficulty="230060207" level="(4,10)" />
15    <difficulty difficulty="777" level="(4,5)" />
16  </difficulties>
17
18  <rewardCoefficient>3.49</rewardCoefficient>
19
20  <shareCoinReward>95</shareCoinReward>
21
22  <collectibles>
23    <collectible resource="Coin" minCount="10" maxCount="20" />
24    <collectible resource="Coin10" minCount="4" maxCount="6" />
25    <collectible resource="Coin25" minCount="2" maxCount="2" />
26    <collectible resource="AuraPower" minCount="20" maxCount="30" amount="1" />
27  </collectibles>
28
29
30  <enemies>
31    <!-- basic enemies -->
32    <enemyv resource="BrainFlv" level="4" />
```

vyprávění



# Vyprávění pomocí herních mechanik

- Herní mechaniky jako nástroj sdělení
- Proceduralita (Bogost) a adaptivní systém
- intermedialita / multimedialita

Intermedia Chart  
Dick Higgins

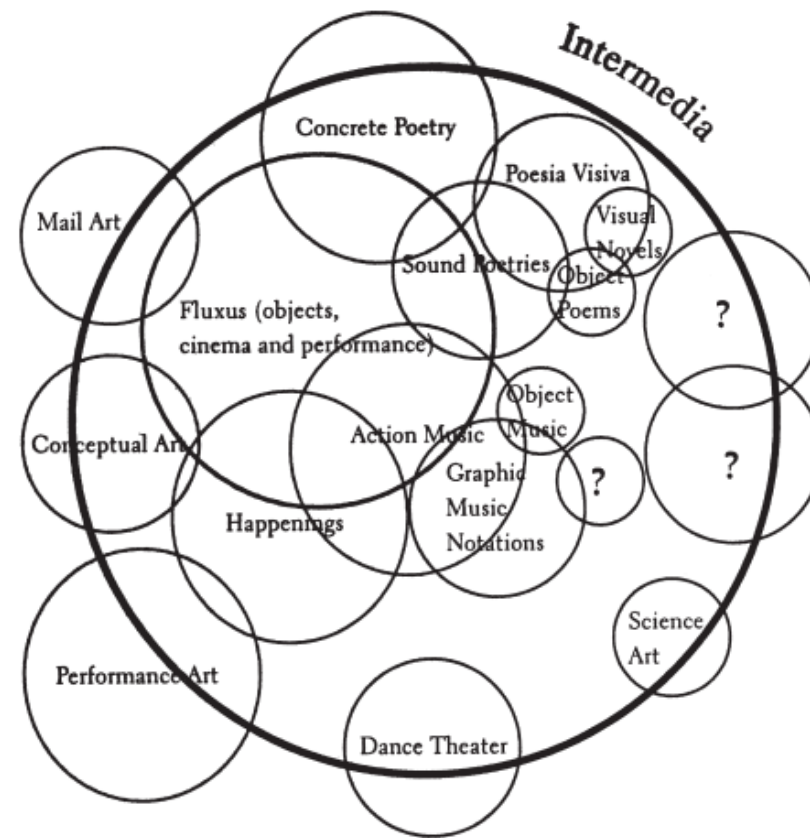


Fig. 1. Intermedia Chart, 1995. (© Estate of Dick Higgins) The chart shows concentric and overlapping circles that appear to expand and contract in relationship to the “Intermedia” framework that encompasses them.



# Toward a unified theory of digital games (RALPH, MONU; 2015)

*Table 3: Examples of Stories by Teller and Audience*

<b>Teller</b>	<b>Audience</b>	<b>Example</b>
developer	player	cut scenes in <i>Metal Gear Solid</i>
developer	observers	<i>destiny</i> non-playable demo at the E3 2013 Conference
player	him or herself	player develops a model of his or her hometown in <i>SimCity</i>
players	players	three friends cooperate to survive the night in <i>DayZ</i>
players	observers	underdog achieves unlikely victory in <i>Starcraft</i> tournament

# Dikce příběhu

- **lineární / nelineární / procedurální / emergentní / fan-made příběh**
  
- Příklady:
  - **Polda, Lego Star Wars, Max Pain**
  - **Story ? - Diablo 3 – řekli byste, že má příběh?**



# DIABLO

REAPER OF SOULS

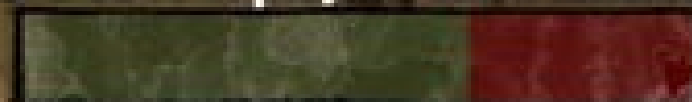
# Dikce příběhu

- lineární / **nelineární** / procedurální / emergentní / fan-made příběh
  
- Příklady:
  - **Baldur's Gate, Skyrim, GTA V, Witcher III.**
  - **metastory – The Walking Dead**

**Honesty**

**Lie to Hershel?**

**You and 63% of players were honest**



**Who would you save?**

**Duck or Shawn?**

**You and 49% of players chose Duck**



**Loyalty**

**Side with Kenny?**

**You and 48% of players defended Kenny**



**Mercy**

**Gave Irene the Gun?**

**You and 55% of players refused the gun**



**Who would you save?**

**Doug or Carley?**

**You and 76% of players chose Carley**



**CLICK TO CONTINUE**

# Dikce příběhu

- lineární / **nelineární** / procedurální / emergentní / fan-made příběh
  
- Příklady:
  - **replayability – Until Dawn**

# UNTIL DAWN™

- RESUME

NEW STORY

**NEW** STATUS & COLLECTIBLES

BONUS CONTENT

SETTINGS

Continue your story from where you left off

LS NAVIGATE

X SELECT

## [Until Dawn Guide - How to Get the Best Ending and Save ...](#)

[www.twinfinitive.net/.../until-dawn-guide-how-to-get-t...](http://www.twinfinitive.net/.../until-dawn-guide-how-to-get-t...) ▼ Přeložit tuto stránku

26. 8. 2015 - **Until Dawn** throws many situations that could lead to the death of your characters in this choose your own adventure. **Endings** will change ...

## [Until Dawn Guide - How to Kill Everyone and Get the Worst ...](#)

[www.twinfinitive.net/.../until-dawn-guide-how-to-kill-...](http://www.twinfinitive.net/.../until-dawn-guide-how-to-kill-...) ▼ Přeložit tuto stránku

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[www.gamepur.com/guide/20085-until-dawn-ending...](http://www.gamepur.com/guide/20085-until-dawn-ending...) ▼ Přeložit tuto stránku

25. 8. 2015 - Welcome to the **Until Dawn Best Ending Guide**. This **guide** provides details on how to get Best **Ending** In **Until Dawn** i.e. All Eight Friends In The ...

## [Until Dawn Ending Guide: How To Get Worst/Bad Ending](#)

[www.gamepur.com/guide/20086-until-dawn-ending...](http://www.gamepur.com/guide/20086-until-dawn-ending...) ▼ Přeložit tuto stránku

26. 8. 2015 - A Detail **Until Dawn Ending Guide** Showcasing How To Get Worst/Bad Ending In **Until Dawn**. To Get Worst Ending In **Until Dawn**, You Need To ...

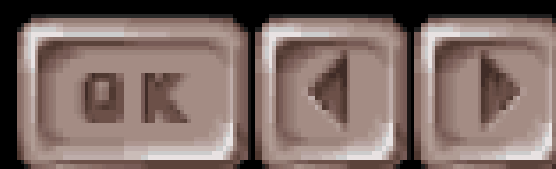


# Dikce příběhu

- lineární / nelineární / **procedurální** / emergentní / fan-made příběh
  
- Příklady:
  - **generované – UFO, FTL**



# Gennadi Samusenko



Weight  $\rightarrow$  17 / 40

Accur  $\rightarrow$  70

React  $\rightarrow$  54



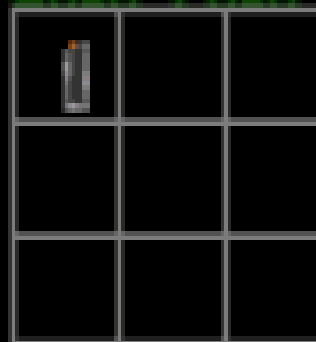
RIGHT SHOULDER



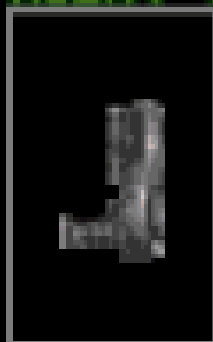
LEFT SHOULDER



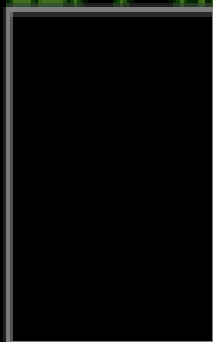
BACK PACK



RIGHT HAND



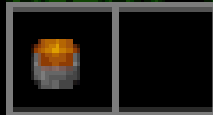
LEFT HAND



BELT



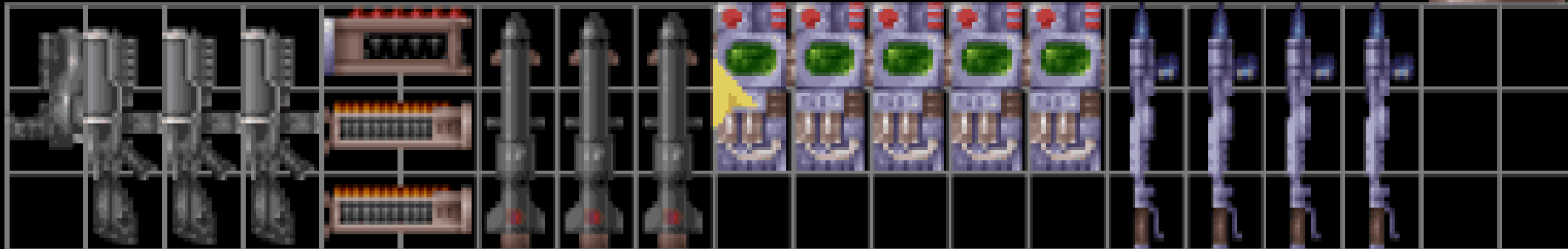
RIGHT LEG



LEFT LEG



GROUND

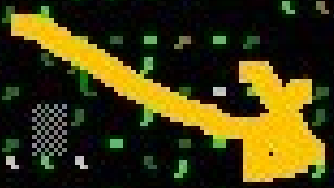


# Dikce příběhu

- lineární / nelineární / procedurální / **emergentní** / fan-made příběh
  
- Příklady:
  - **simulace, sandbox – Dwarf Fortress, Minecraft**

# golfen invaslon!

golfen  
invaslon!



# Emergentní gameplay

hra – dílo – artefakt – příběh – sandbox –  
platforma – služba – komunita – performance

# Dikce příběhu

- lineární / nelineární / procedurální / emergentní / **fan-made příběh**
- Příklady:
  - hra jako zdroj motivů k příběhové improvizaci – **Let's Play (lparchive.org)**

## Chapter 2: A Routine Examination

March 29, 2004

👤: There you go Commander Zander, that's not so bad, isn't it?



👤: You're not the one with wires coming out of you head.

👤: Ha, no wonder it took you so long to finally schedule this. I've told you how important these mental evaluations are, right?

👤: Believe me, I'm *well aware* of what this war did to our men. I wanted to form this clinic for soldiers ever since the war ended. I've seen it all first hand. PTSD, schizophrenia, the two or three psionic conditions discovered in the last few years....and then there are all the stories from the soldiers retrieving Elerium from the bottom of the ocean...

Hra jako topologická narativní struktura.

= level design ?

*(...aneb, co by to bylo za prezentaci bez Dark Souls)*





3 Great Magic Weapon













19 Estus Flask+3

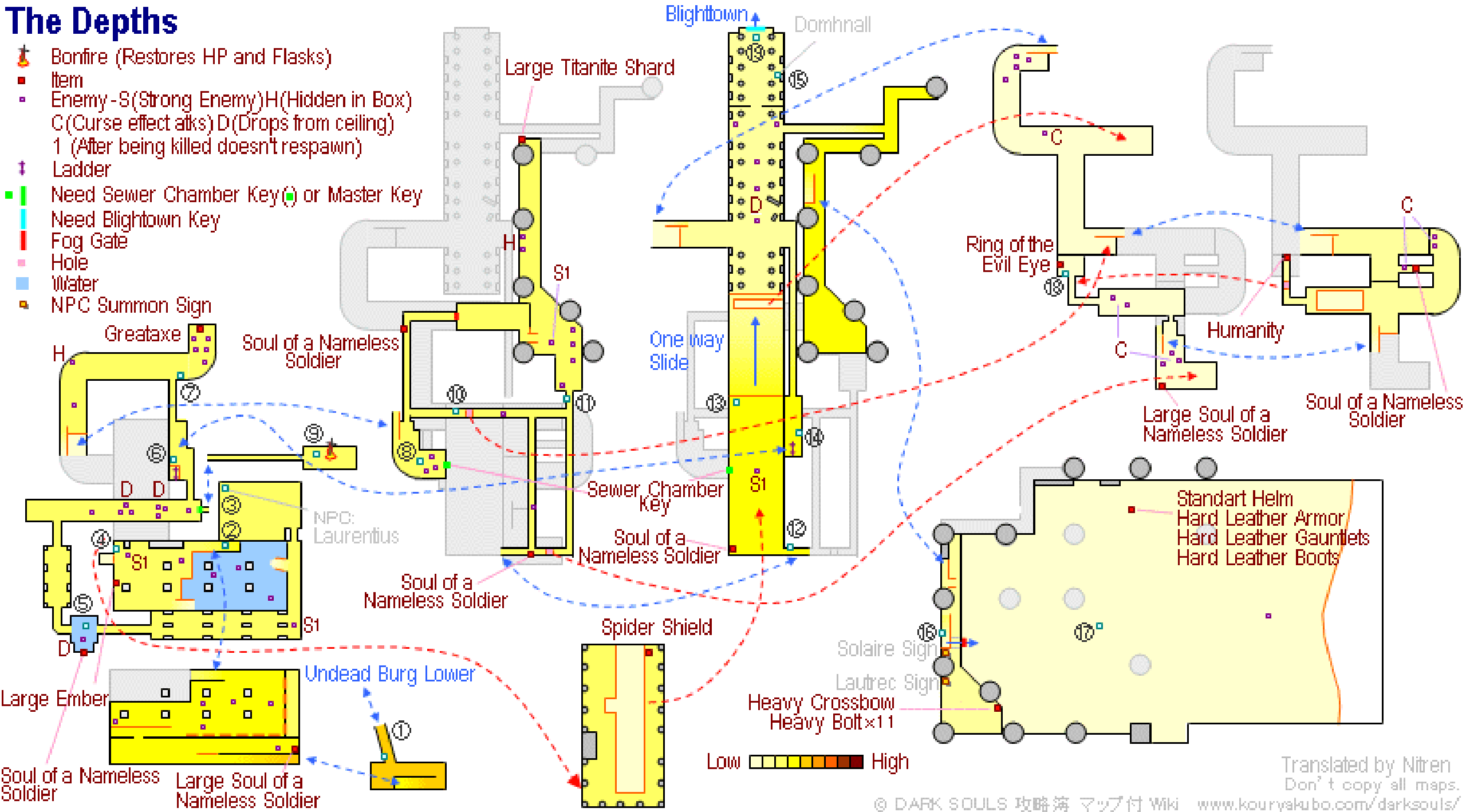
5692





# The Depths

-  Bonfire (Restores HP and Flasks)
-  Item
-  Enemy - S(Strong Enemy) H(Hidden in Box)
- C(Curse effect atks) D(Drops from ceiling)
- 1 (After being killed doesn't respawn)
-  Ladder
-  Need Sewer Chamber Key (■) or Master Key
-  Need Blightown Key
-  Fog Gate
-  Hole
-  Water
-  NPC Summon Sign



# Odkrývání vrstev

- Kdy je hra filmem?
- Kdy knihou?
- Kdy obrazem?
- Kdy básní?
- Kdy divadlem nebo improvizací?
- Kdy je hra hrou?

# Odkrývání vrstev

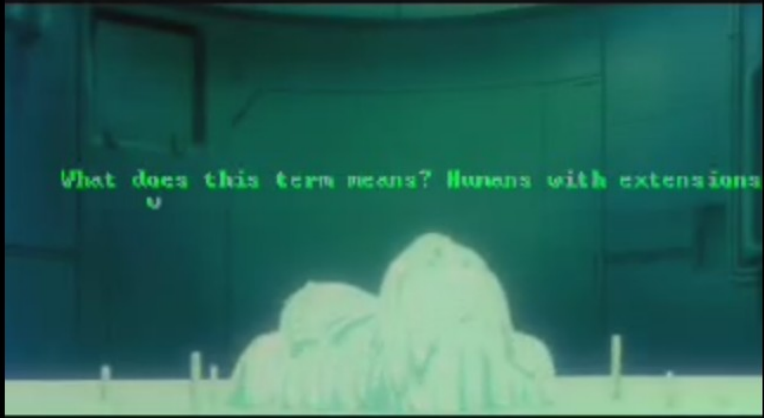
- Kdy je hra filmem?
- Kdy knihou?
- Kdy obrazem?
- Kdy básní?
- Kdy divadlem nebo improvizací?
- Kdy je hra hrou?
- model MDA
- pravidla, prostor
- struktura kódu
- proceduralita
- intermedialita
- dikce příběhu
- hra jako platforma performance

design  
vyprávění

# Termíny „vyprávění“

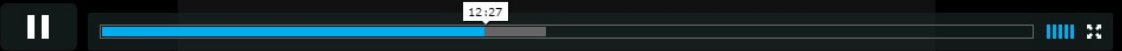
- Příběh
- Vyprávění
- Narativ





What does this term means? Humans with extensions

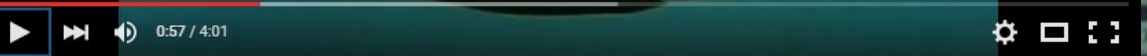
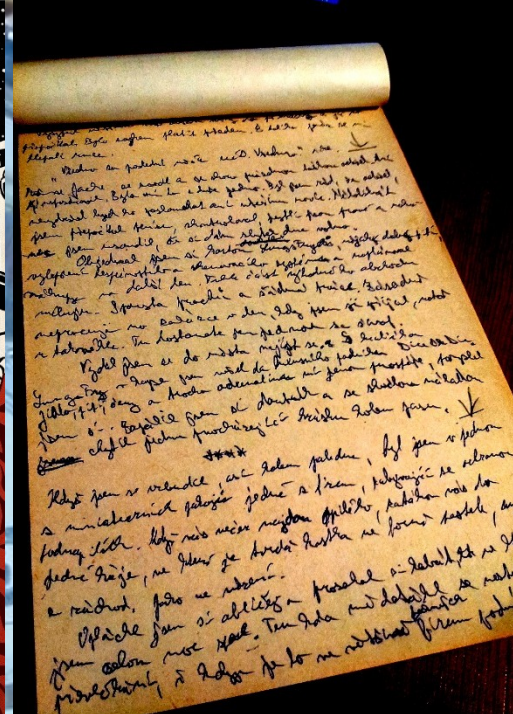
12:27



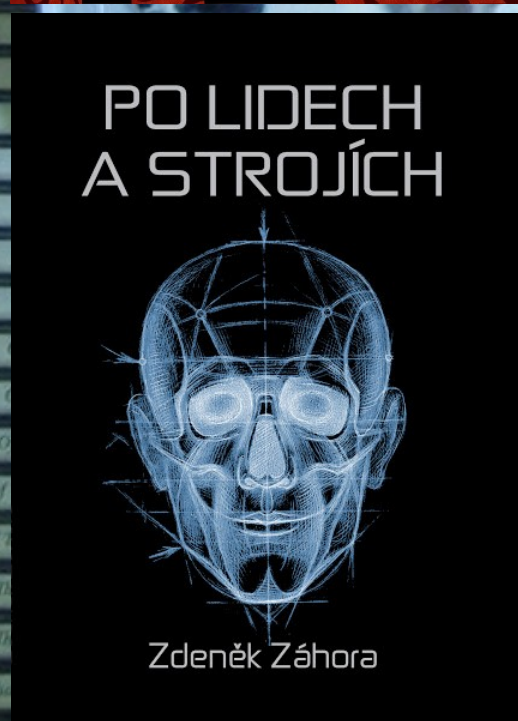
**Do I Exist? | Zdeněk Záhora**  
from Fresh Flesh 6 years ago NOT YET RATED



**SPANIEL  
& TARŽOV**  
VLNY RUKOU, VLNY TĚL  
ZDENĚK ZÁHORA



Analytics Správce videí



**PO LIDECH  
A STROJÍCH**



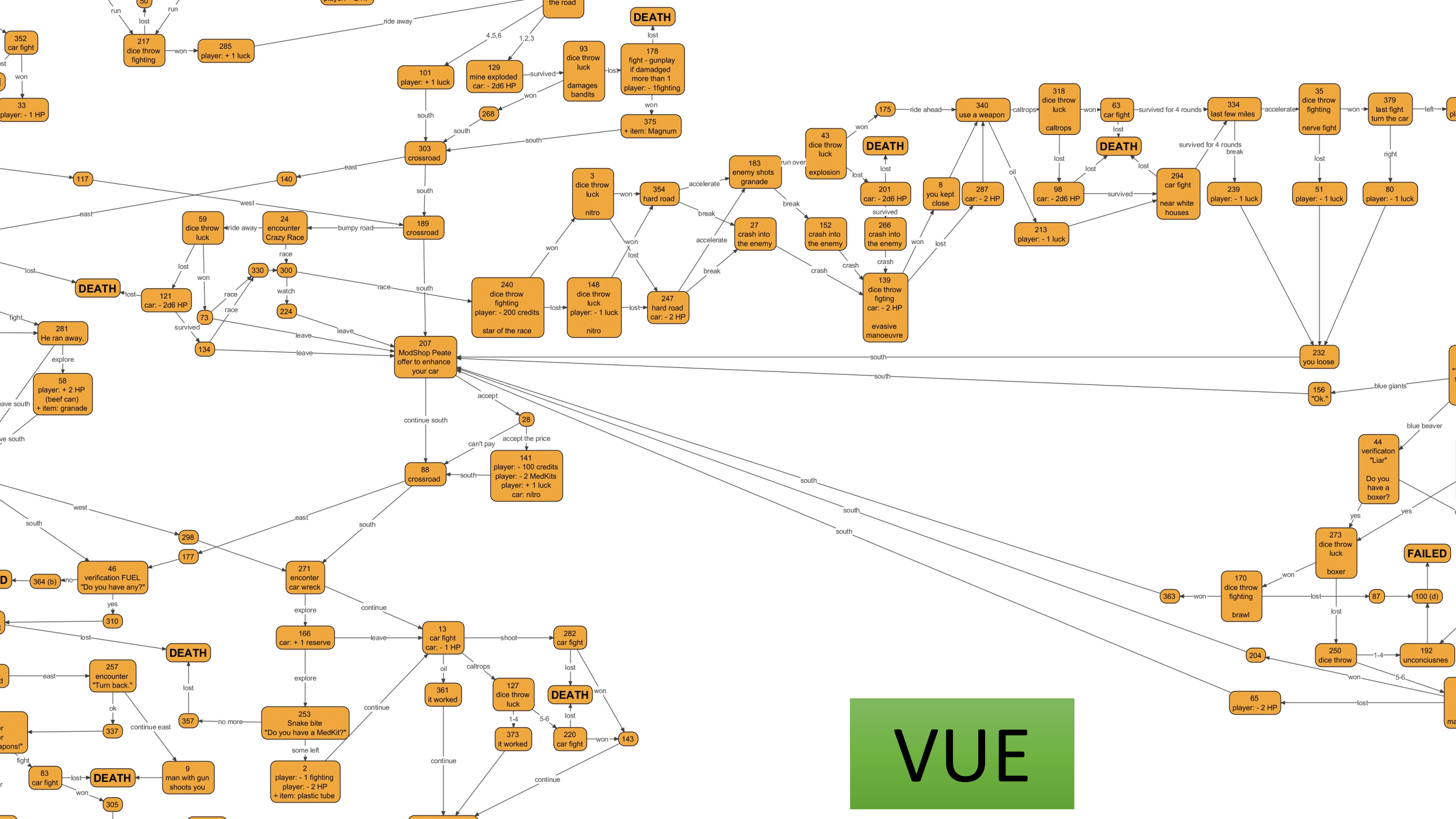
Zdeněk Záhora

- příběh, povídka
- video klip
- film
- text písně
- příběh obrazem
- kniha
- komiks
- hudba jako nosič
- zvuky, efekty

#### 14 Roboti – mafiani

Žiaľ, vyskytli sa aj výstrelky. Séria “X-218 BOOKKEEPER” nedokázala dostatočne rozlišovať medzi zákonným a nezákonným spôsobom organizovania finančných tokov. Došlo i k drobným ztrátám na ľudských životoch. Celá série šla do stoupy.





VUE

# ChatMapper

- <http://www.chatmapper.com>

The screenshot displays the ChatMapper interface for a mission titled "888 Brannen - Tommy's Office". The main workspace shows a flowchart of mission steps:

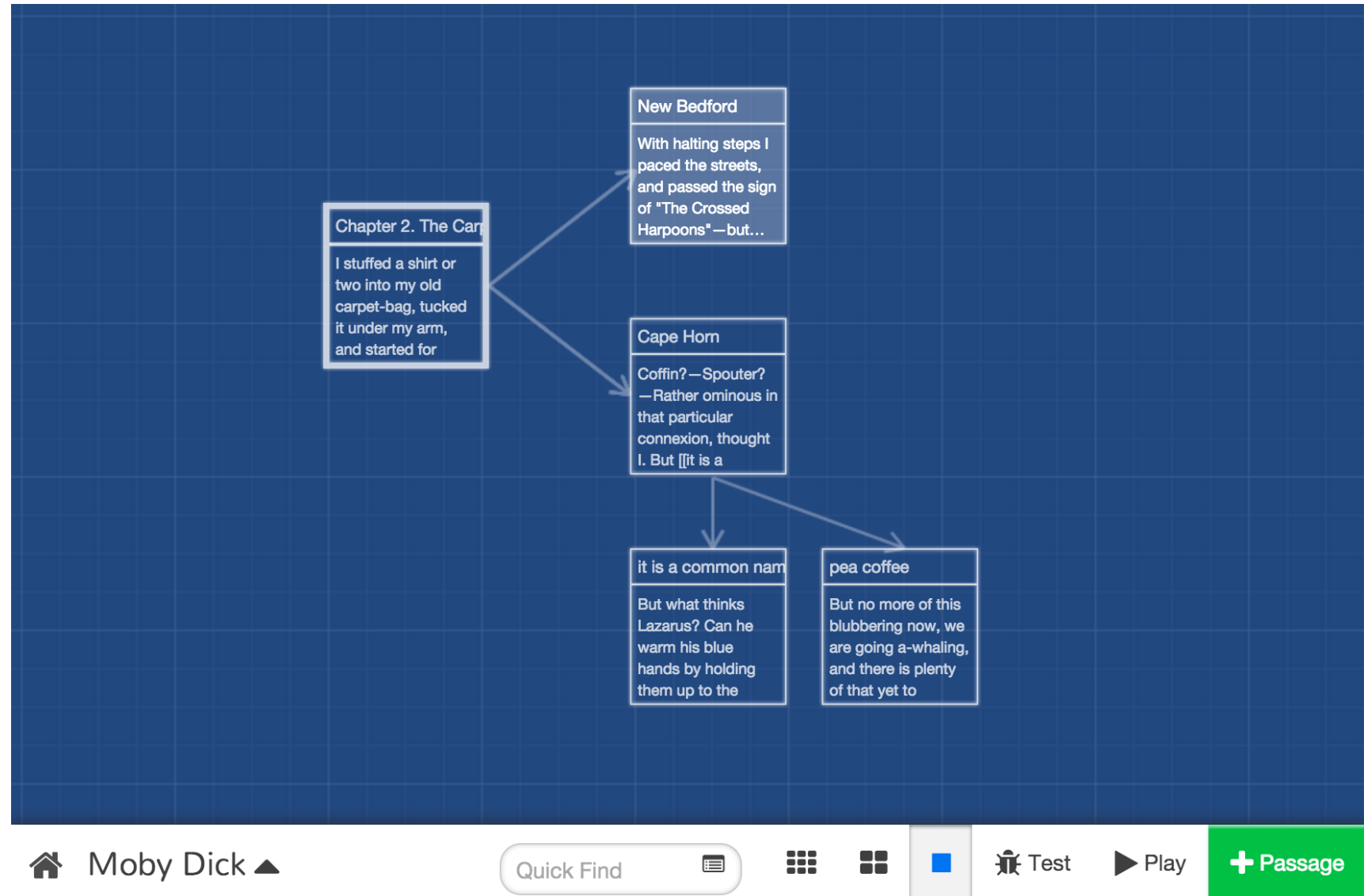
- Missions** (Step 8) leads to **About 2 - A** (Step 27).
- About 2 - A** branches into four paths:
  - Where** (Step 10): Karen asks "Where's Venetti?". Leads to **More about 2** (Step 20).
  - I have some more que...** (Step 20): Tommy asks "I still need a few more details...". Leads to **About 2 - B** (Step 21).
  - Remind me again about...** (Step 20): Karen asks "Okay from the top... What am I supposed to do again?". Leads to **Here's the reminder ...** (Step 30).
  - More about 3** (Step 31): Karen asks "A girl like me? What do you mean by a girl like me?". Leads to **Let's just say** (Step 36).
- More about 2** (Step 20) leads to **About 2 - B** (Step 21).
- Here's the reminder ...** (Step 30) leads to **TO: B** (Step 8).
- Let's just say** (Step 36) leads to **TO: B** (Step 8).

The interface includes several toolbars and panels:

- Assets:** Lists actors (Karen, Tommy, Katie, Receptionist, Venetti), items (USB Memory Stick), locations (888 Brannen Street, 445 Oakridge), and variables (CompletedMission, PasswordAttempts).
- Overview:** Shows a small thumbnail of the mission flowchart.
- Properties:** Configures the selected step, including Title, Actor, Conversant, Menu Text, Dialogue Text, and Parenthetical.
- Conditions and Script Editor:** Panels for defining conditions and writing scripts for each step.
- False Action, Priority, Delay SimStatu:** Controls for step execution.

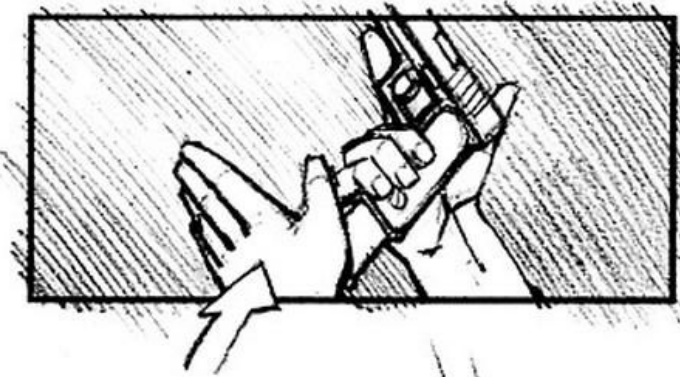
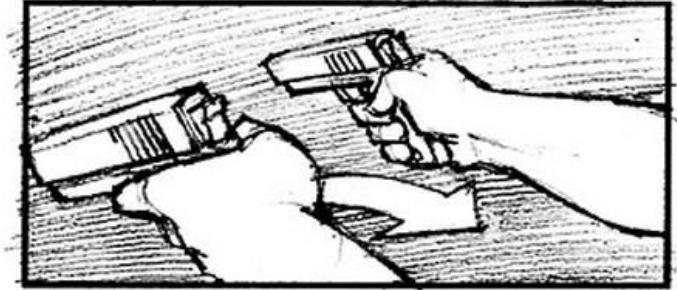
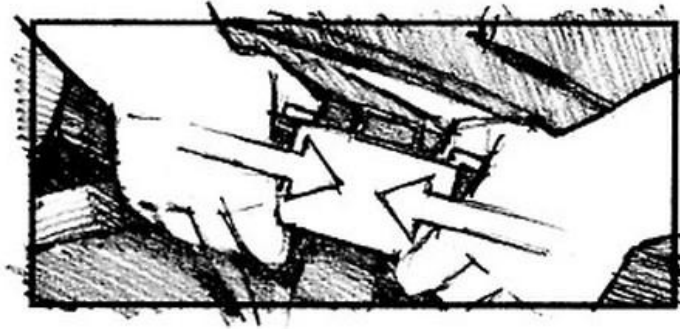
# Twine

- <http://twinery.org>



# Story Board

- Tužka, papír
- Power Point



**HOT  
FUZZ**

Scene:

129

Page:

3

validace  
designu

# TESTOVÁNÍ

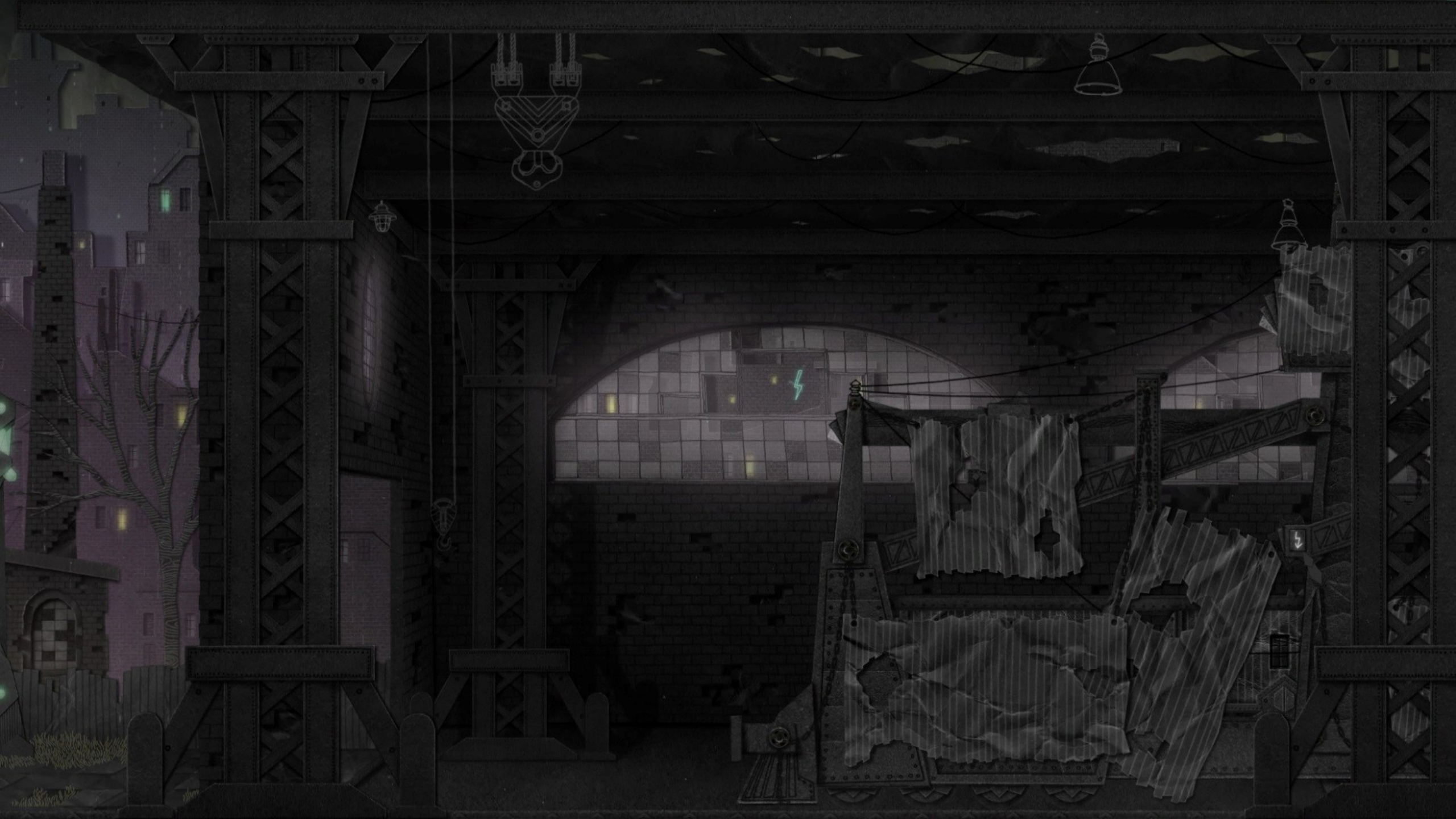
- **FOCUS groupa** je specificky determinovaná skupina jedinců dle společných charakterových rysů a preferenčních vzorců. To vše v kontextu marketingových cílů organizace.
- ~~**PLAY test** je proces testování user experience / herního zážitku, konkrétních herních mechanik, dynamik, zážitků nebo působení dalšího herního obsahu na skupině jedinců, kteří nemusí vykazovat konkrétní společné rysy. To vše v kontextu herního designu a validování chtěného herního zážitku.~~



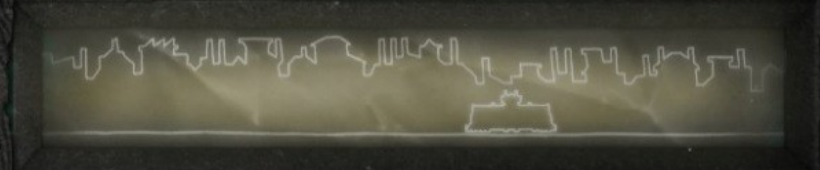
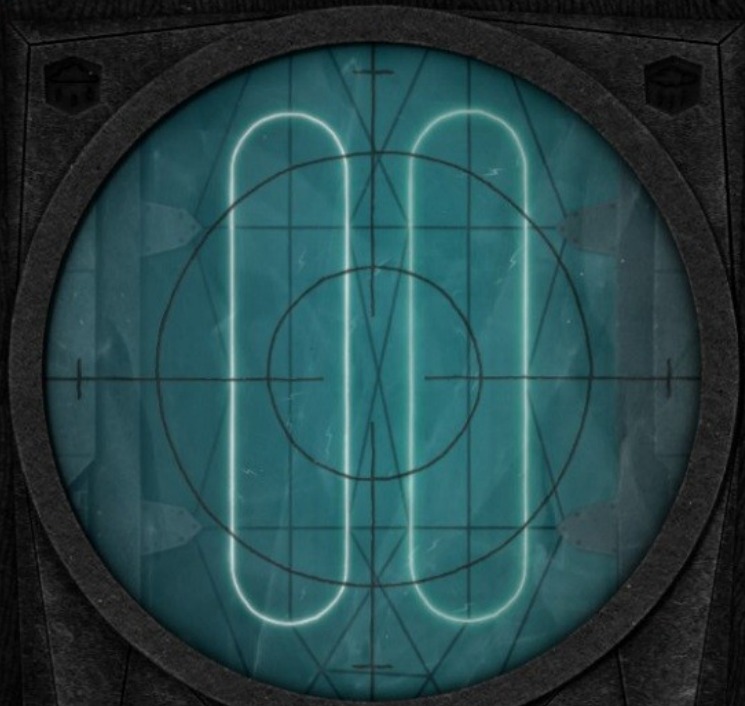
# TESTOVÁNÍ

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- **PLAY test** je proces testování user experience / herního zážitku, konkrétních herních mechanik, dynamik, zážitků nebo působení dalšího herního obsahu na skupině jedinců, kteří nemusí vykazovat konkrétní společné rysy. To vše v kontextu herního designu a validování chtěného herního zážitku.

onboarding















[https://www.youtube.com/watch?v=pV4\\_dLzCt2g](https://www.youtube.com/watch?v=pV4_dLzCt2g)

# Shrnutí

- terminologie
- vyprávění pomocí herních mechanik
- intermedialita
- dikce příběhu
- typologie příběhu
- emergentní
- procedurální
- fan-made
- narativ x příběh
- nástroje designu příběhu
- validace
- testování
- Nástroje:
  - ChatMapper
  - Twine
  - VUE
  - StoryBoard

# NA WORKSHOP PRAVIDLA a ONBOARDING 7.11.2016

- finalizace všech mini-úkolů do odevzdávacího termínu
  - 01 co jsou to mech., dyn., est.
  - 02 gamasutra článek - řešerše
  - 03 výstup 1-2 A4 + foto herního prototypu z workshopu
    - Základní herní mechaniky, dynamiky, chtěná estetika, cíl hry, jeden a více z plánovaných „kind of fun“, odstavec o roli prostoru, pojednání o fikci hry (existuje-li)
- sepsání herního prototypu (1-2 A4), na kterém budete pracovat na workshopu (pokud se liší od 03)

**=> do odevzdávacího termínu do 4. 11. 2016**