

# AHI Lecture 3: Initialization and Paper Models

Course Director: Stephen VanZandt ([svanzandt@fullsail.com](mailto:svanzandt@fullsail.com))

Index	Page
1. Initialization	1
1.1 AHI Title & Acronyms	
1.2 Overview of Your UCD	
1.3 Product Pitch	
2. Designer Awareness	3
2.1 The Hook	
2.2 Bartle Taxonomy of Player Types	
2.3 Immersion, Goldilocks and Flow	
2.4 Intended Audience	
2.5 Plan to make an IPM Chart	
2.6 D&D Shows Us The Way	
3. Prototyping	6
3.1 Prototype Fidelity	
3.2 Paper Model & Testing	
4. Homework	7

## 1. Initialization

### 1.1 AHI Title & Acronyms

AHI stands for Applied Human-computer Interaction. The administration placed this course in the thread of the mid-program project so that it could integrate with that process, thus the “Applied.”

The remains of the course name, Human-Computer Interaction, or HCI, is the study of how people interact with computers and to what extent computers are or are not developed for successful interaction with human beings. In short, how “well designed” the computers or programs are on that computer.

In this course there will be a focus on the following:

**UI or User Interface**, the conduit by which the user and a computer interact. The “input and output, at a lesser or greater extent.

**UX or User eXperience**, how easy and pleasing it is to use a computer system and its software or other peripheral devices. Unfortunately, we will only be reviewing this component as it requires more attention to detail than we have time and resources to invest during this project. Even still, some of the information we can provide will help enhance your work, just to understand that it is not the full investment of a UX process.

Also, it is important to understand a few more acronyms:

**UCD or User Centered Design** is the standard for developing a product with a specific target audience in mind. The old mantra in production is “who is our audience and what do they want” must be answered before any development is undertaken. There is an overview of this as it relates to you following the acronym lexicon.

**GUI or Graphical User Interface** (as I’m sure you have heard before) is the modern means to communicate to the user what controls and information is available to them and assist them controlling a computer or similar device. A simple concept, pictures to represent words, functions and resources.

And finally,

**LCD or Lowest Common Denominator** is the least understanding or functional individuals in any group of people. This is an important term to understand when learning usability because these LCD people are your hardest test for success. Also, you cannot simply dismiss people that “don’t get it” because in the world of commerce the LCD crowd is generally your largest demographic, and they have the most money to spend on your employer’s products! In other words, LCDs are very valuable customers, by far outweighing the elites of which you might just be. Respect them for their economic value.

## 1.2 Overview of Your UCD

At this point it is important to consider your audience and their needs in this project, before it is undertaken and completed. You are in School to learn and prove to teachers, the school and the prospective employers that you are a viable, if not valuable asset to be invested in (hired to work for them). That means you should understand their needs in the project. Here are a few points to consider while you work on this and following projects:

- 1. Don’t make projects with yourself or your friends as the target audience.** None of you are! The real target of your work are those that might employ you following your education. Employers like to be able to see your best work, so make your work be accessible and speak to them most of all. Show prospective employers you take pride in your work product and that you listen to your instructors.
- 2. The best way to extend your work out to the general populace is via game sites (Kongregate or Newgrounds) or secondarily on your own webspace.** Online is still the most accessible and low maintenance portal, as you can just send people a link in an email and they have access! Public websites have traffic potential and count as published work, so you should do that despite any fears you might have. (the only problem with web is having to optimize or preload excessive data.
- 3. Don’t games as “player killers!!”** the difference between you and an LCD playing the same game is difficulty levels, so use that! Statistics (attributes, hit points, attack damage, abilities, movement, etc., are all adjustable, so adjust them).
- 4. Make sure you take credit for your game!!** “Credit screens” are used to give the team credit, and the better the screen design the more people will be interested and the more information you can provide them. Use emails that you check regularly so when people do contact you it isn’t just sitting in a trash account.

## 1.3 Product Pitch

At the beginning of each product you should develop a pitch to communicate the data points and order to others (in you company or externally). This helps you communicate a great deal and visualize your product quickly to someone unfamiliar, such as a teammate just joining you or the client. Remember the point is to construct an effective pitch, lean, powerful and flavorful, so that it explains the concept without you struggling to do so with a tatter of ideas.

Here is the basic design. The words in brackets must be filled with the concepts of your product while the connecting words can be changed to suit your needs. It is the concepts in brackets and the order that provides the most impact. Oh yeah, erase the brackets before you present this to anyone so they think you’re the genius and not whoever is directing you.

[Name] is [genre] in [setting] where the player (plays as/action) to [win condition] using/experiencing [hook].

Here are details on constructing the data points for best effect.

**Name** is the working title or the actual name of the product if you are that far along. This gives a personality to the product and a momentum during development. A dumb name is bad, so be clever, even if it is a working title (do not call it “working title”).

**Genre** is obviously the game’s action model, but it also generally defines the player’s vantage point and the controls dynamic by identifying the platform. For instance, an FPS for PC tells us the action model, targeting and shooting while avoiding being shot, as well as the vantage point, first person, and well the PC default controls. That scenario is very clear.

However, assuming that the genre is not so clear, as is the case with “action”, you might want to add a vantage as well as the platform. And if the controls are unusual or unique that would be a wonderful thing to put in the “playing as/action” data point.

Setting  
Plays as/action  
Win condition  
Hook

## 2. Designer Awareness

### 2.1 The Hook

The core feature of a game is called the “hook.” This is a dominant feature, persistent throughout play that is the primary and superior difference between the game you are developing and competitive products in the market. It is wise to elevate a feature in your game that serves this purpose.

**Example: God of War** – Kratos runs around killing critters large and small in this action adventure, but what is the hook? The camera, which developers explain as a big risk that paid off big time. The camera stays with Kratos through the entire game and tells the story from his point of view. It does this with no glitches nor occlusions and is always exactly on target, shooting from low angles to make massive enemies seem massive or from above when Kratos needs you to see the battle fully for best understanding of his condition and best usability so you feel like a champ when you come out of the fight unbeaten. **Hook: Following camera.**

**Example: League of Legends** – players have better mastery of controls when all character abilities are controlled with the Q, W, E and R keys, click and move is tracked by pathfinding lines and the mini-map presents champions with small identifiable icons for quicker recognition and easier action processing. (Previous game model WC3 community game “DoTA or Defense of The Ancients” had whacky hotkeys and normal WC3 interface usability.) **Hook: UI tweaks.**

### 2.2 Bartle Taxonomy of Player Types

Bartle Taxonomy of Player Archetypes states that all computer game players fit into one of four profiles. Each of which represents their personality and predilection when choosing and playing their games. It is possible for a person to change their archetype when moving from one game to another, but typically that takes time for the individual to alter their tastes and behaviors. The archetypes are as follows:

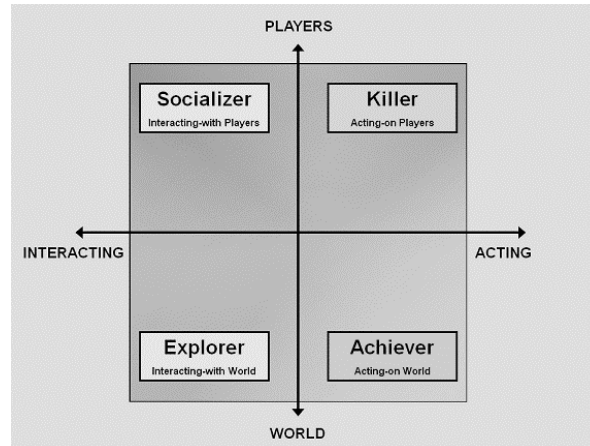
**Achievers** – people who accumulate strive to accomplish by beating the rules-based challenges of the game world. These are the players that like to “finish all levels with perfect scores.”

**Explorers** – enjoy discovery and often test the systems governing the operation of the game world. These are the players that like to “leave no stone unturned.”

**Killers** – interfere with the functioning of the game world or the play experience of other players by attacking to destroy all they meet. Player controlled characters are often the killer’s favorite prey, as they are either less effective than the game characters (cheap wins) or because they are more than the game characters (fun wins by challenge or by ruining other players’ experience).

**Socializers** -- form relationships with other players by “telling stories within the game world.” These are the players that enjoy true RPGs (as opposed to the more action-oriented CPG).

The taxonomy can be tested by examining the state of the player with their actions, as demonstrated on the chart below. Players or World combine with Interacting or Acting demonstrates their intent with the game world and other players.



- Players who **Interact** with other **Players** are **Socializers**.
- Players that **Interact** with the **World** are **Explorers**.
- Player that are **Acting** with other **Players** are **Killers**.
- Players that are **Acting** with the **World** are **Achievers**

For more information reference Gamasutra article:

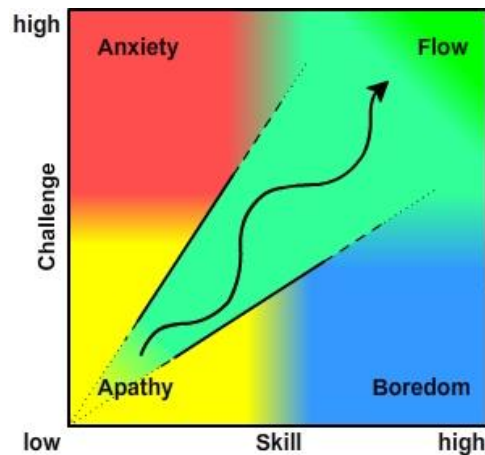
[https://www.gamasutra.com/view/feature/6474/personality\\_and\\_play\\_styles\\_a\\_.php?print=1](https://www.gamasutra.com/view/feature/6474/personality_and_play_styles_a_.php?print=1)

### 2.3 Immersion, Goldilocks and Flow

**Immersion** is engaging the user to the exclusion of the real world. This could include overwhelming the senses or involving the player's attention in action that essentially takes up most or all of their attentional bandwidth.

The **Goldilocks Principle** states that the desired result must fall within certain margins, as opposed to reaching either extremes of a range. This is the principle applied to what modern science applies to the range from a sun to give life what it requires to exist: not too far from the sun that the lifeform freezes and not too close that the lifeform boils.

**Flow**, a principle codified by psychologist **Mihaly Csikszentmihalyi** states that the path to successful play in games is to maintain a balance between apathy in early play and anxiety or boredom as the game progresses and must maintain equilibrium between raising challenges and the player's ability to increase their skill accordingly. If anything in this construct goes awry, the player will lose attention and likely stop playing. Visualized in the image that follows, from the start at the lower left side to the conclusion of the game at the upper right.:



## 2.4 Intended Audience

As is stated by UCD (User Centered Design), Always Target Your Audience!!  
For any project you craft in school, It Is A Portfolio Piece!!

- Design your projects in school towards **potential employers**.
- Allow them to see **Early**, **Mid** and **Late** play.
- Don't Plan On Replay! You often only **Get One Chance!**
- Think through your delivery format **Web is still the best access!**
- Make sure you get credit. **Make Your Credits Page Count!**
- Give prospective employers a contact you use and check often!
- Use class projects to show skills and teamwork.
- Use your own projects to show initiative, design, skill, drive and volume. More is better than a few!
- Your own projects important (sometimes more so than those you are required to make in class and get help with)! Be as prolific as possible.
- Make a lot of small games, like a prototype of Angry Birds or Meat Boy. Small but effective!

## 2.5 Plan to make an IPM Chart

The planning tool IPM chart, which stands for Introduce / Practice / Master, is a Gantt chart used to demonstrate when a creature, trap, puzzle or other game element is introduced, practiced then mastered in the time cycle of the game.

First the designers must have full lists of items to be tracked as well as a plan for the length of the game and a general plan for any divisions in time (levels or such). Then the Gantt chart is started introducing the first element, then charting for practice time, then finally marking when the player should have mastered the element. Then the next item and so on until the chart is finished.

In the end, every element in the game should be represented in this fashion, so that the designers have a plan for when elements will be introduced, how long they will be practiced and then finally when they should be mastered for play.

Finally, nothing should be practiced or mastered in the last 15% or so length of play. Having not mastered the elements in the game at that point means that the player should not be prepared for the conclusion of play. Instead that last portion of play should be facing the most challenging end of the combination of elements already mastered.

## 2.6 D&D Shows Us The Way

The very essence of the original game of Dungeons & Dragons stands as the roots of video games today. The term “Hit Points” itself comes from the game. So, the basic lesson that can be learned from the game is its sophistication.

For instance, in the game of D&D the characters have attribute score, such as Strength, that confer bonuses, such as a score of 1 yielding a +1 to melee battle. Also, a magic weapon might also have a +1, which now combine with the Strength bonus of +1, and if attacking with surprise adds another +1. So, the character now has a + to hit (Strength +1 plus Magic Sword +1 plus Surprise +1 equals + 3 to attack roll).

And so, we can learn from this that games require a certain quality of numeric sophistication to entertain the complex gamer mind. Instead of using integers in a crudely large scale, use floating point values and reduce the total range needed to build a sophisticated system. Now you can add a number of ways to increase the attack value and combined they can better fit in the reasonable range you choose for your game.

Answer: for code, floating values work together in a given range better than bulky integers.

## 3. Prototyping

### 3.1 Prototype Fidelity

Fidelity (defined) is the accuracy to the original. When you hear the term “high Fidelity” for audio or video or televisions, that means the quality is closer to reality than lower fidelity comparables.

In the case of prototyping there are three fidelities, each with its own level of similarity to a finished product and each with its own benefits and losses. Here is a brief on the three levels of fidelity.

**Low Fidelity** is for troubleshooting a concept before investing in a digital version.

- These only approximate final product (they are least functional).
- + Minimal investment (time and materials), and almost always paper models.
- + Easily repeated (expect to do so).

**Medium Fidelity** is almost exclusively digital and intended to show basic function for detailed user testing before greater build is attempted.

- Much greater investment than low fidelity (medium fidelity digital prototypes are expensive with regards to time and resources)
- + Digital prototypes demonstrate play better and allow for more accurate testing.
- + Digital prototypes are still iterative for testing/revision process.

**High Fidelity** is exclusively digital and often “native” (built for intended platform) and intended to use as a marketable demonstration of the final product (like a game’s “beta release”).

- Great investment, smaller scope version of final product but polished like final product.
- Frequently released too late for revision of actual product.
- + Most closely reflect final product, used for marketing purposes.

With respects to the above information, this course will only work with **Low Fidelity Prototypes** for demonstrating game design, navigation and UI design. These will be **used to approximate final product** with **minimal investment of time and materials** while allowing for **testing and iteration**.

### 3.2 Paper Model & Testing

Paper model gameplay requires each team to produce allow fidelity model of their game’s basic play. This will require:

- Each team work together to produce paper model prototype.
- Use standard sized paper turned sideways (called “landscape” as opposed to normal orientation which is called “portrait”).
- Draw 1 scene from your game, representing a screenshot between early and mid play of the game.

- Include wireframe (“stickman”) of player avatar, environment, enemy or enemies, a puzzle, a trap, possibly hook in use, as applicable. (if you don't have any elements in the list given then don't include them).
- Prepare one person to present the prototype and the rest of the team to take notes.

Upon presentation, you will demonstrate the prototype and receive a review of the product. The review may require you to revise and repeat the prototype and presentation. If so, follow the rules here and create a new prototype while keeping the previous for comparison later.

#### **4. Homework**

- Prototype revision as required.