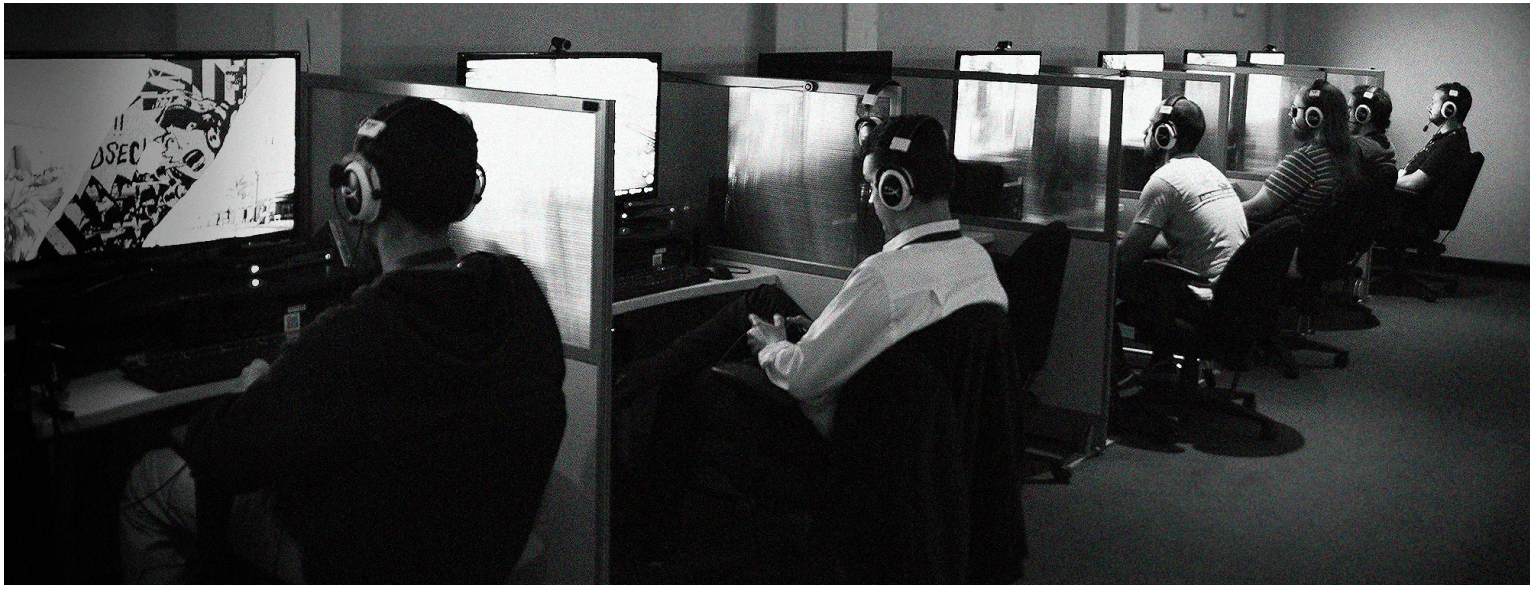


Introduction to Games User Research
Participant Observation

INF2300H
iSchool, University of Toronto

Velian Pandeliev
Oct. 7, 2019

My office hours: BL710

Wednesdays 1:30 - 5 pm

15-minute slots

https://velian.youcanbook.me


UXVG

Course outline

The course will be conducted in three major stages.

I. Introduction to video games

Game pillars, competencies, 3C's, challenge, video game industry

II. User experience research for video games

Industry methods for understanding the player experience

III. User interface design for video games

Design heuristics and user interfaces to complement the game

INF2300 is not…

…a game design course. We will not be learning how to design levels, enemies, or game rules.

…a game development course. No programming, no Unity.

…a quality assurance course. No bug hunting or glitch reporting.

…a solo experience. This is a small class; you will work and learn together.

…a completely new domain. Your existing knowledge in research and design will largely apply to video games, with some gotchas.

…just for "gamers". Playing lots of video games is not required to make them better. Instead, be curious and interested in the topic.

Games are designed to create experiences

Game designers consider the player's experience when they design.

However, the game designer does **not** have control over the final experience, only to the game itself.

They have ideas on how to engineer a certain kind of experience, but their ideas **may not match player expectations or desires**, or the game they design may not result in the right experience.

Deploying the game to players and observing their experience is the only way to **access** whether the **intended experience** has been created.

What is user experience research for?

User experience research in video games

User experience research in video games aims to understand how a game is being played in the world, and what issues players are encountering.

In order to be valid, user research needs to be conducted in the appropriate context with **real players**, not with game designers or developers.

Player's gameplay data is gathered, processed, and interpreted from questionnaires, interviews, paper prototypes, live gameplay, and telemetry.

The data is **analyzed and presented** to the game development team in order to improve the game's relationship to the intended experience.

Reintroduction to UX Research

User Experience Research

UX research is a primary driving force in the **user-centred design** method.

It provides initial **user requirements** for interactive digital products, validates **design directions**, and uncovers **issues** so they can be solved in future iterations.

UX research involves presenting an artifact to a user and obtaining data from their interaction using rigorous, replicable **research methods**.

In the domain of video games, this discipline is known as **Games User Research (GUR)**.

Quantitative vs Qualitative

Quantitative data has a quantity or a number associated with.

Quantitative values can be compared by their ordering (ordinal-scale, e.g., **game difficulty**), difference (interval-scale, e.g., **Likert rating**) or ratio (ratio-scale, e.g., **score** or **time spent**)

Qualitative data involves description, properties, features, characteristics.

It is typically analyzed by grouping qualitative properties into codes, groups, or clusters forming a nominal-scale category.

Objective vs Subjective

Objective data is true regardless of source or point of view, based on impartial evidence.

> ***"Score: 34,560"***

Subjective data is based on individual perspective, recollection, or belief.

> ***"Games are too long these days."***

Behavioural vs Attitudinal

Behavioural data captures what participants do.

> ***"Completed level 3."***

Attitudinal data captures what participants say, think, or feel.

> ***"Oh, I guess it's yellow because it's about to collapse?"***

Data Axes

		Qualitative	Quantitative
Behavioural	**Objective**	*"Yeah, I **played this game**…*	*… and got to **level 19**"*
	Subjective	*"I was **playing stealthy**…*	*…like, **40%** of the time"*
Attitudinal	**Objective**	*"I **understood** base upgrades…*	*… by hour **2** or so"*
	Subjective	*"I **liked** the game a lot…*	*… and I give it an **8.5 / 10**"*

Games User Research stages

A GUR study is conducted in the following stages:

- **Prepare:** gather requirements, define research questions, choose methods, plan study protocol, secure artifacts, pilot test, play game build, recruit participants
- **Conduct:** deploy protocol, connect participants to artifacts, gather data, debrief
- **Analyze:** process data, consolidate issues, draw conclusions, determine answers to research questions
- **Report:** digest insights into shareable, actionable format and distribute to members of design team

Research questions

Research questions guide research and determine the focus of a session and the type of data that needs to be gathered.

User research may be conducted at different stages to answer the following **big overarching questions**:

- Who is the product for? (user profiles / competitor analysis)
- What should our business model be? (marketing / product strategy)
- What should the product be? (specification / design / idea generation)
- How should the product be made? (evaluation)

Research questions

GUR practitioners tend to focus on **specifications (what)** in pre-production and on **evaluation (how)** throughout the development process.

Evaluation involves understanding issues of:

- **Clarity**: do players understand the goals and systems of the game
- **Usability**: can players use the game interface easily and learn it quickly
- **Balancing**: is anything in the game too easy or too hard
- **Appreciation**: is the experience fun and do players like it

Research questions

Good research questions:

- Can be answered by **research**

  - "What is this game's Metacritic score likely to be?"

  + "How often are players frustrated by this map?"

- Lead to **action** and potential change

  - "What percentage of the time are players using the sniper rifle?"

  + "How often are players with a sniper rifle defeating players with shotguns on a short-range map?"

GUR methods

Player profiles

- Ethnographic field study
- Focus group
- Market segmentation
- Online survey
- Diary study
- Personas

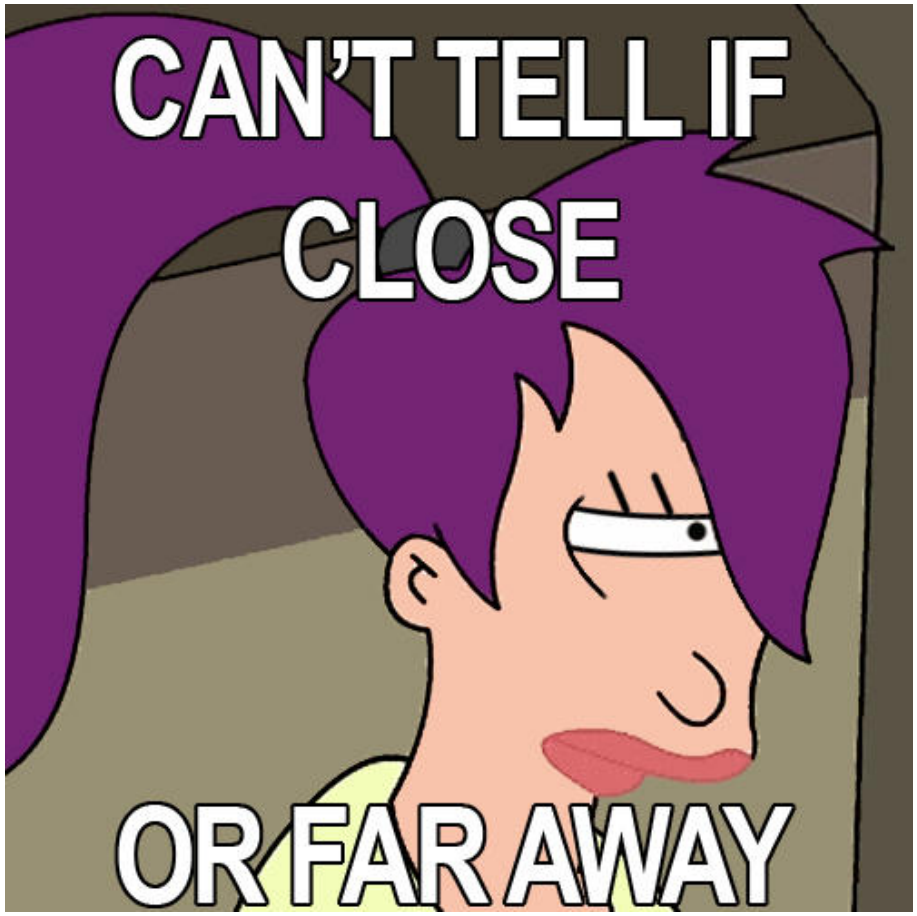
Usability/Clarity

- A/B testing
- Cardsort*
- Heuristic evaluation*
- Initial player experience*
- Interview
- Narrative testing*
- Usability test *

Balance/Appreciation

- Benchmark
- Critical facet playtest
- Extended playtest
- RITE (Rapid Iterative Testing and Evaluation)
- Telemetry analysis*

Triangulate



GUR pitfalls and challenges?

GUR pitfalls and challenges

- Research ethics
- Recruitment and sampling
- Bias and influence
- Sample size, significance, and power
- Data interpretation
- Presentation of findings
- Follow-up and actionability

Gameplay Observation

Gameplay observation

Observation is used to obtain **behavioural** data during gameplay.

It is commonly deployed in usability testing, initial player experience testing, critical facet playtests, and benchmarks.

Observation may be **direct** (live gameplay) or **indirect** (gameplay footage).

Observation may be conducted in a **controlled** (e.g., playtesting lab) or **naturalistic** (e.g., player's living room) environment.

The activities being observed may be **scripted** (i.e., player is given a sequence of tasks to perform) or **unscripted** (i.e., player is asked to play naturally and do what they like)

An observation session needs to be **planned**, **performed**, and **analyzed**.

Gameplay Observation: Plan

Determine observation focus and questions

Consult designers to determine what kinds of insights they are interested in and what aspects of the game are testable at this time:

- Combat: amount, variety, difficulty, attack direction
- Controls / traversal / platforming / driving
- Character Progression / levelling: clarity, expectations
- Stealth
- Missions: objective clarity, etc.
- World: environments, theming, etc.
- Story: cutscenes, characters, clarity
- Enemies: difficulty, clarity of hits
- User Interface

Determine observation focus and questions

Example: combat

The designer's intention for the facet "combat" is broken down into aspects or design goals, e.g.,:

1. Combat is tactical and technical
2. Players lock on to enemies
3. Weapon variety leads to tactical options
4. Powerful combos
5. Challenging but fast-resolving

Link questions to observable phenomena

1. Combat is tactical and technical:
   Do players study opponents or rush in button-mashing?
   When players button-mash, do they win?
2. Players lock on to enemies:
   Are players consistently locking on after being taught?
3. Weapon variety leads to tactical options:
   How often do players switch weapons? What prompts that?
4. Powerful combos
   Are players attempting combos? Are they able to complete them?
5. Challenging but fast-resolving
   Are fights dragging on?

Prepare note-taking guide

Structure your note-taking categories to match the most important research questions of the study, matched to observable things:

- COMBAT:
  - COMBO
  - MASH
  - WEAPON SWITCH
  - LOCK-ON
  - DEATH
  - WIN

Gameplay Observation: Perform

Gameplay observation

Researcher responsibilities during an observation study:

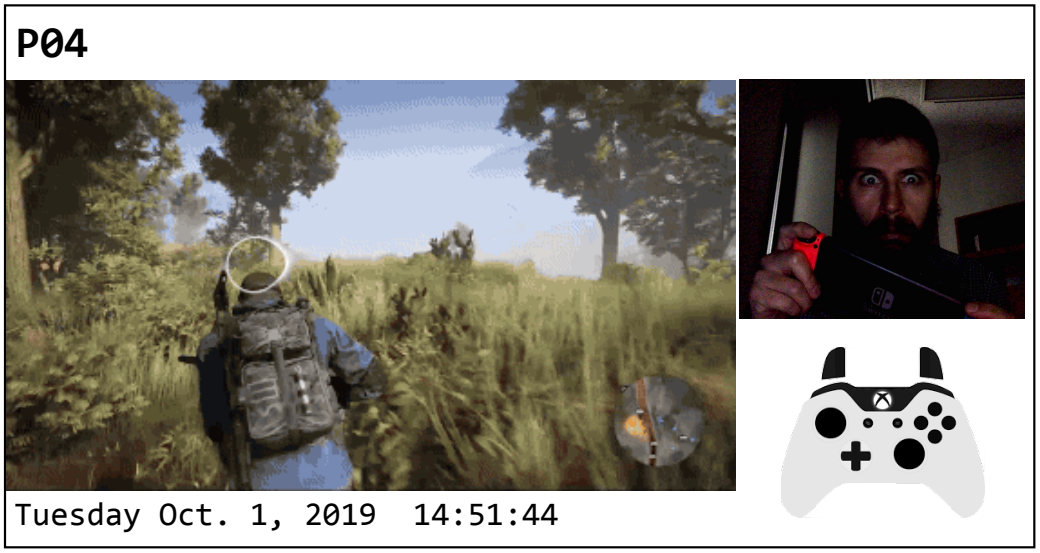
- **Moderate:** guide the player through the session
- **Capture:** record the entire gameplay session for later reference
- **Observe:** note and interpret significant events

Moderation

It is the **moderator**'s job to ensure that the participant:

- sign **informed consent** form (and possibly Non-Disclosure Agreement)
- be given clear **instructions** and expectations
- feel **safe** and comfortable
- have **questions** answered
- receive options to take a break or **discontinue** the session
- have their **identity** and data safeguarded
- be **compensated** for their time

Capture



- Player **identifier**
- In-game **video**
- In-game **audio**
- Player's **face**, posture, reaction *(note privacy concern)*
- Player's **communication** to the game or to the moderator
- A standardized **time** reference (timestamps) sync'd between players
- In-game **controls** input
- Biometrics (e.g., galvanic skin response, gaze tracking)

Observe

During an observation session, a researcher can observe and note:

- In-game **events** (wins, deaths, confusions)
- Control **inputs**
- Spontaneous player **comments** or **reactions**
- **Body language**, facial expression, posture
- **Space** and **setup** (esp. in naturalistic environment)
- **Social** context (esp. in multiplayer)

It is the **observer**'s job to take **relevant**, **comprehensive**, and **concise** notes of important events in real time.

Observing live gameplay is intense.

Increase your chances of success by preparing:

play the game build,

remember research questions,

create note-taking guide

Taking notes in observation

Notes should be:

Relevant

- related to research question(s)
- identify challenges or issues with the intended experience

Comprehensive

- contain relevant context and captures what happened

Concise

- fast to write, fast to read, omits unnecessary words and details

Relevant notes

Most events are not relevant.

Many things will **happen** during a gameplay session.

Most of these are **not relevant** to the research questions of the study.

Novice or excitable researchers will try to note **every event**, even if it is not relevant or **does not pose an issue** that needs to be fixed.

An observation session is not a **test** of a researcher's unwavering attention, keen eyesight, and fast keyboard fingers.

It is an meant to identify **actionable issues** with a game in its current state.

The more notes you take, the more work it'll take to consolidate and strip them away after the session.

Key Skill:

Deciding whether to take a note

Impact and persistence

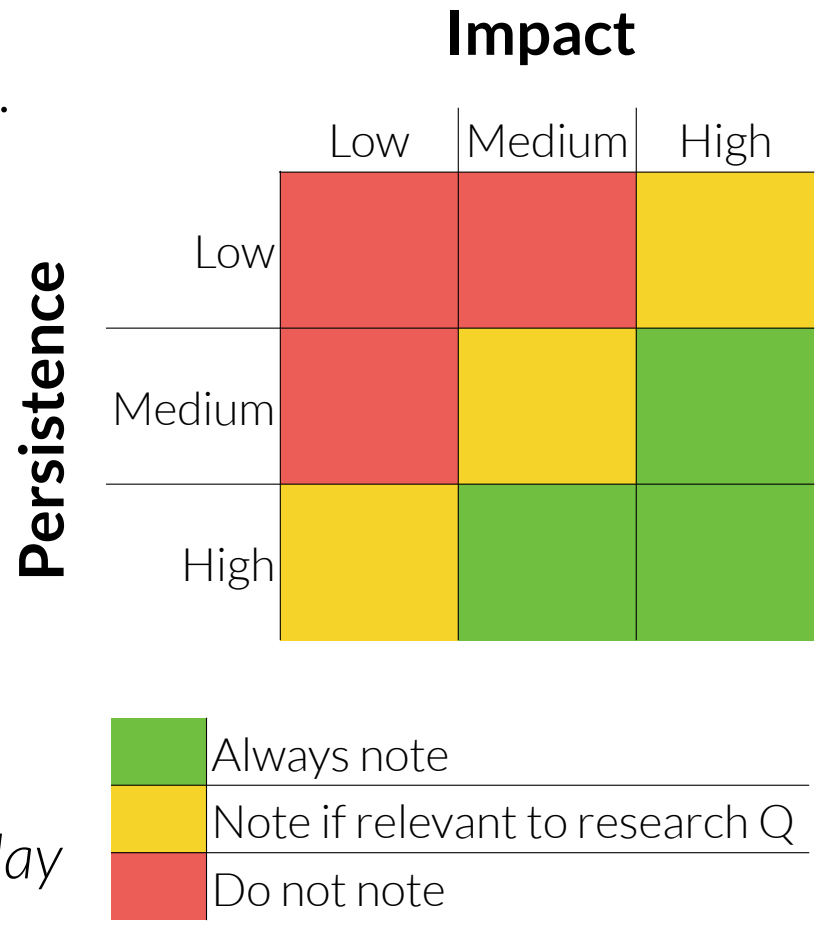
Determine the issue's **impact** and **persistence**.

Impact: significantly changes or interferes with the experience of the core gameplay.

*Progress blocked **vs** brief wrong turn*

Persistence: occurs multiple times for the player, does not seem to improve with time or training

*Couldn't land combo the first time **vs***
can't complete any combos after 1 hour of gameplay



Intended vs unintended experience

Observation is focused on the **player's experience**, not code stability or software functionality.

Observer **notes** should be relevant to **the intended experience** of gameplay: the mechanics, challenges, controls, and assets that are currently available to the player in the game.

Notes on **the unintended experience** are generally **not as useful**, e.g.,: bugs, crashes, player attitude towards placeholder art…

However, when a facet of the unintended experience **significantly impacts** player enjoyment or perception of the game, it should be noted so it can be taken into account during analysis.

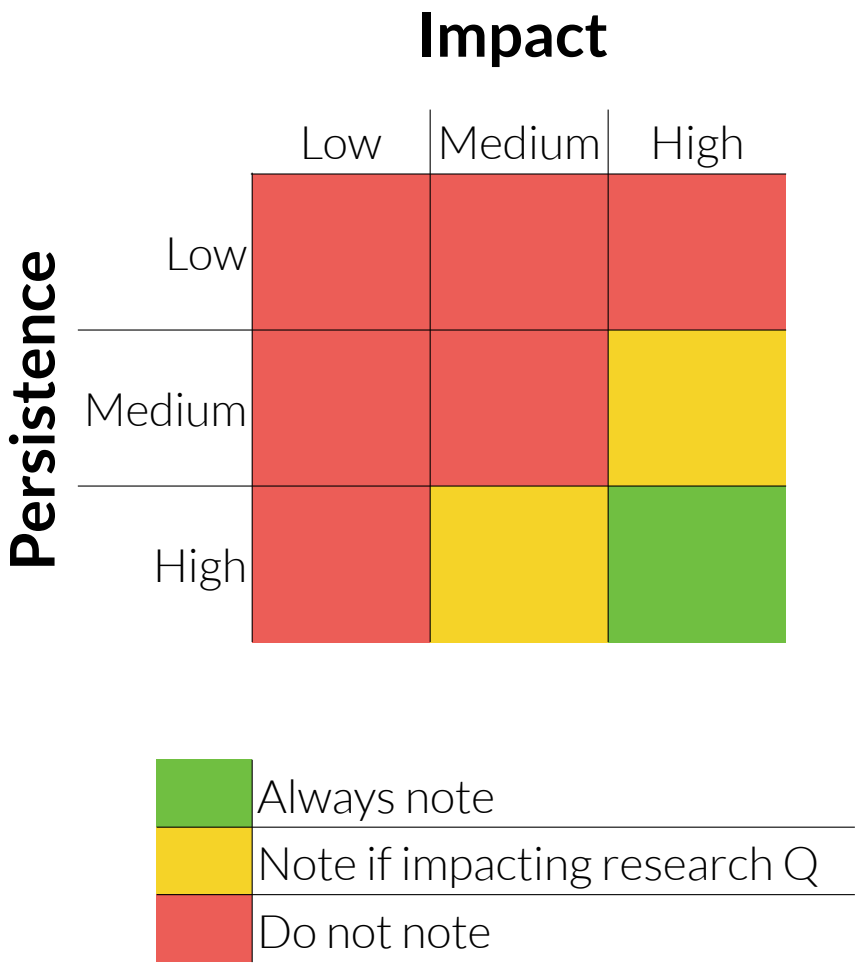
Bugs

Gameplay bugs should be reported only when they **significantly** impact gameplay.

Bugs that **strongly** affect a player's experience should be noted as a potential factor in the gameplay session's results.

E.g., *Enemies shooting through walls, no quest rewards given, progress blocked*

Bugs that have **little** or no impact on gameplay: collision, cosmetics, etc. are not the responsibility of the user researcher to keep track of.



Comprehensive notes

Anatomy of a note

A note should mention or indicate:

- **Player ID**
- **Timestamp**
- **What** did the player experience (what is the issue)
- **Why** is the issue occurring
- **Impact**: the consequences of the issue on the player's experience
- **Persistence**: is this the first time this has happened
- **Source**: how was the "why" determined: observation, feedback, interpretation

Key skill:

Noting all relevant details

Observation Note Source

> *Can't find exit; room too dark.*

The note above omits how the conclusion "room too dark" was reached.

It is important that the observer clearly indicate the source of any conclusions drawn in their note.

Observation:

> *Can't find exit; seen **squinting and turning up brightness**; room too dark"*

Feedback:

> *Can't find exit; yells **"Where the f*** is the light!"** room too dark"*

Interpretation/Assumption:

> *"Can't find exit. **Seems to me** room may be too dark?"*

Concise notes

Time crunch

While observing gameplay, the researcher has to split her attention between noting significant events and continuing to follow gameplay.

In live observation, a researcher may be expected to watch 2 or more players simultaneously.

Taking relevant and comprehensive notes is much more difficult when it has to happen **quickly**.

Key skill:

Taking a note quickly while gameplay continues


Our BlueMotion range combines lighter materials, enhanced aerodynamics, economical engines and tyres that create less friction, which saves you fuel and can reduce your tax, which means you will have more money.
Another example of Volkswagen efficiency.
Das Auto.

Omit needless words

Live observation notes can be freed of many unnecessary words:

- the player / the participant / he / she / they
  (replace with ID in multiplayer contexts)
- Connective words
- Lengthy descriptions of past events

Some strategies:

- No need for complete sentences, use common abbreviations
- Find software that can help automate timestamps and autocomplete categories
- Learn and practice advanced features

The participant did not seem to understand that he was picking up new weapons and they were being stored in his inventory.

Even when faced with an enemy vulnerable to piercing damage, participant did not think to check inventory for suitable weapon. So far, the inventory menu has not been opened at all.

Exception: Copy Quotes Verbatim

When a participant says something clear, insightful, and illustrative of the core issue you fear your game has, copy it down word for word so you don't have to scrub through the video later to find it.

"I hope we get more weapons after lunch, I'm sick of the flamethrower"

*- Starlink playtest participant**

* PROBABLY

Note example

11:45 am: P1 took 18 min to kill Prime, no aim at weak spot, weakness unclear

- Player?
- Timestamp?
- What happened?
- Why did it happen (cause)?
- Source: observation, feedback, interpretation?
- Impact?
- Persistence?

Note example 2

Player

Timestamp

What happened

Why did it happen (cause)

Source: observation, feedback, interpretation

Impact

Persistence

Post-observation process

Issue identification

Each of your notes is likely to be of a **single** discrete event.

However, it may be part of a **pattern** or trend that indicates a larger issue.

After each session:

- Group and consolidate your own notes into themes/trends/issues
- Write a summary of your top observed themes/trends/issues
- Prioritize them by severity, impact, or persistence
- If there are other researchers on the study, compare your issues to theirs and create a master list of observed issues
- Maintain original sources of player IDs and notes as supporting evidence or to pull illustrative video clips

Issue analysis and prioritization

Based on the combined list of issues, determine which are well-supported by everyone's data and which are the most important to report.

When consolidating and **prioritizing** issues, use a combination of:

- **frequency**: how many players experienced this issue
- **impact**: how significant was the change to player experience
- **persistence**: was it possible to resolve or overcome the problem?

Prioritize by category: **must-fix, high, medium, low, nice-to-have**.

Prepare to **present** must-fix or high priority issues, but **report** all.

Present / report

The purpose of a GUR study is to answer the development team's research questions and to guide the next iteration of their work.

Deliverables you may be asked to produce:

- **Written report:** top findings next day and full report to follow
- **Debrief:** present to team and answer questions
- **Ticket issues:** enter issues into issue-tracking software

These methods vary in their effectiveness to convey your results to the development team. **Video clips** and **quotes** will help illustrate your findings.

The best way to convey the results of your test and to engage designers is:

Have designers observe the playtest session

from another room

or stream it to their desks

but don't let them talk to participants

or solicit feedback from them directly

Assignment 2

Assignment 2: Indirect observation

In Assignment 2 you will:

- Form ~8 groups
- Receive prerecorded game video and research direction from Velian
- Individually observe prerecorded game video and take notes
- Consolidate and analyze notes together
- Prepare report and top findings presentation

Assignment 2 will be posted this week and will tentatively be due Oct. 31.

Please consult assignment handout for full details.