

Intrinsic Motivation Heuristic

# Meaningful Contribution

The system clearly helps users identify their meaningful contributions to themselves or to others

Does the system provide information that allows the user to identify their real-life achievements and how to improve themselves outside of the system?

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# Reflection

The system clearly helps users to reflect on their contributions to themselves or to others

Does the system provide information that allows the user to reflect on their real-life achievements and how to improve themselves outside of the system?

# Increasing Challenge

The system offers challenges that grow with  
the user's skill

- Does the system present challenges in a way that motivates the user to tackle them?
- Is the difficulty of the challenges adjusted to the user's ability and skill?

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# Onboarding

The system offers initial challenges for newcomers that help them learn how it works

Does the system present an initial tutorial or explanation of the first steps the user should take?

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# Self-challenge

The system helps users discover or create new challenges to test themselves.

Does the system offer features to allow the user to create their own challenges?

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# Progressive Goals

The system always presents the goals that are immediately achievable by the users

Are the suggested new goals immediately achievable (adequate to the user's ability and skill)? Are the suggested new goals always a bit more difficult than the previous?

# Achievement

The system lets users keep track of their achievements or advancements

- Is the achievement tracking meaningful, *i.e.*, does it help the user understand which new abilities or skills were acquired after each achievement or what rewards were awarded?

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# Choice

The system provides users with choices on what to do or how to do something, which are interesting but also limited in scope according to each user's capacity

Does the system clearly inform the user about the available choices and their consequences?



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# Self-expression

The system lets users express themselves or  
create new content

Does the system let the user create new content for  
themselves or other users?

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# Freedom

The system lets users experiment with new or different paths without fear or serious consequences

Does the system offer multiple paths for achieving similar results?

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# Social Interaction

The system lets users connect and interact socially

Does the system offer means for social interactions that are meaningful for the application, i.e., do they help users achieve their goals?

# Social Cooperation

The system offers the opportunity of users working together towards achieving common goals

- Does the system offer means for users to work together towards achieving common goals?
- Are users adequately rewarded proportionally to the effort they invested in the collaborative work?

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# Social Competition

The system lets users compare themselves with others or challenge other users

Does the system offer means for users to compare, compete, or challenge other users in a positive way?

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# Fairness

The system offers similar opportunities of success and progression for everyone and means for newcomers to feel motivated even when comparing themselves with veterans.

Is progression in the system balanced and fair, *i.e.*, do all users have equal chance of achievement if they put the same effort and time into the system?

Do the system offer means for newcomers to progress at their own pace without feeling diminished by the progress of other users that are already ahead of them?

# Narrative

The system offers users a meaningful narrative or story (real or fictional) with which they can relate to

- Does the system feature a theme or story that is meaningful and connected to the users' goals?
- Is the theme or story clearly explained?

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# Perceived Fun

The system affords users the possibility of interacting with and being part of the story

Does the system allow the user to interact with and influence the story? Does the way a user influences the story also extend its influence to other users?



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# Ownership

The system lets users own virtual goods or build an individual profile over time, which can be developed by continued use of the system and with which users can relate to

Does the system let users own virtual possessions that are meaningful and useful to the user?

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# Rewards

The system offers incentive rewards for interaction and continued use, which are valuable to users and proportional to the amount of effort invested

Does the system reward the user for completing tasks or progressing in their goals? Are the rewards meaningful and useful for the user?

Extrinsic Motivation Heuristic

# Virtual Economy

The system lets users exchange the result of their efforts with in-system or outside rewards

Does the system let the user exchange their rewards or possessions with other users?

# Scarcity

The system offers interesting features or rewards that are rare or difficult to obtain (limited in resources)

- Does the system limit certain features only to users with certain accomplishments?
- If there is an illusion of time constraint to accomplish a task?

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# Loss Avoidance

The system creates urgency through possible losses unless users act immediately

Does the user feel they are going to lose something unless they keep using the system continually (e.g. rewards for continued use, information, social connections, etc.)?

Context Dependent Heuristic

# Clear and Immediate Feedback

The systems always inform users immediately of any changes or accomplishments in an easy and graspable way

Context Dependent Heuristic

# Actionable Feedback

The system always informs users the next available actions and improvements available

Context Dependent Heuristic

# Graspable Progress

Feedback always tells users where they stand  
and what is the path ahead for progression



Context Dependent Heuristic

# Unpredictability: Varied Challenges

The system creates curiosity by offering unexpected variability in the challenges or tasks presented to the user

Does the system feature any unexpected variability in the tasks or goals that can be completed (e.g. by randomly suggesting a different goal)?

Context Dependent Heuristic

# Unpredictability: Varied Rewards

The system creates curiosity by offering unexpected variability in the rewards that are offered to the user

Does the system feature any unexpected variability in the tasks or goals that can be completed (e.g. by randomly suggesting a different goal)?