Reviewer A:

1. Sections 1-4, while interesting, could be reduced in
order to allow the reader to focus on the most relevant parts and leave more space to novel information and achievements (in particular the experimental part).

**Ioannis Comments:** Every effort was taken to reduce section 1 – 4.

1. Subsection 2.3 could be streamlined, by first presenting the Simplex 2,
then Octalysis, then their integration. This order should concern also the
figures (that are not very readable).

**Ioannis Comments:** The manuscript was updated to reflect the above comment (see section 2.3). Simplex is presented first and the Octalysis second. The figure showing the integration of the two frameworks was removed to give more space in the document for the Simplex and Octalysis figures. Finally the figures were enlarged to ensure clarity and readability.

1. Section 3 is very relevant. However, I think that more structure should be provided, and kept consistently also in the remainder of the paper. In
particular, the terms phase, goal, factor, features, component should be
very briefly introduced, and the links among them clarified. If something
is redundant, please omit. One or more pictures could be very useful to
enhance understandability. I have also some doubts about some terms, like
race (ethnicity may be more appropriate) and gender (sex).

**Ioannis Comments:** Section 3 has been re-written to integrate the above comments. A figure was added to illustrate the new cognitive mechanisms introduced in each phase of the player’s journey. Also race was replaced by player ethnicity and sex by player gender.

1. Section 4, I would use a more specific term, rather than “research”
framework, if possible. Classifications of players are of different types.
Bartle is one of several possible.

**Ioannis Comments:** I could not find a more specific term than this. I am unsure what is meant by “classification of players are of different types….”

1. Section 5. I would appreciate some pictures showing the application and the test settings. The text should highlight that this paper makes a synthesis of the works already presented in other papers and presents a complete overview of the results. But the differences between the tests should be highlighted, stressing (e.g., In a table) the different places, settings, goals, users, control condition (and final achievements). In other word, a synoptic view would be very useful.

**Ioannis Comments:** No pictures were taken during the laboratory tests. The section was updated to include the above comments.

1. In the third experiment, I don’t understand “what we had already
observed in the lab”, as it seems that this test was conducted outside.

**Ioannis Comments:** This phrase was removed and the paragraph was re-written to ensure clarity.

1. The term “consistency” is frequently used, but should be better
presented, in my view, also in relation to “performance” and
“perception”. Significance means statistical significance? Every
comparison should make clear the (two) terms of comparison. If something is not well known, it should be said, with no fear, so to allow the reader to have a clear picture.

**Ioannis Comments:** The term consistency was replaced with the ECA – zero effect. The term performance and perception was clarified were possible. Where it was not possible to replace it, I used the term task performance.

1. Experiment 4, about NLP, first mentions two approaches, then three. Why are a specific number of questions per location needed?

**Ioannis Comments:** The paragraph was re-written to ensure clarity.

1. In some cases, some vague expressions are used (e.g., end of section 5). If more precise data are not available, examples may be useful to better
understand.

**Ioannis Comments:** The paragraph (end of section 5) was re-written to ensure clarity.

1. The experimental analysis investigates the user experience (even if with the limit of an indoor simulation) but it does not look to be well related to the presented framework, which should be a major praise of this paper. I understand the framework is very rich, but its main points should be
highlighted and related to the analysis (even if the analysis may not give a final evaluation response on some items, or even some could not be analysed, which may happen with no problem).

**Ioannis Comments:** The experimental section was re-written to ensure it is clear which of the variables of the framework each experiment address. As only specific variables were addressed during our studies only those are referred in the analysis.

Minors:

1. In sub-section 2.4, the three basic principles could be put as bullets,
“Having included” could go in a new paragraph. I don’t understand the
reasoning about group members (they should all already be related). Also, I would avoid “strong evidence”.
2. A citation should be provided to support the statement about “Greek-like
characteristics” in the Player race item.
3. Mobile computing environment (cited in several places) could be better
mobile guide environment. “Type”, within “mobile computing
environment” should probably specify indoor/outdoor. Visual presence, as
one of the features of the ECA could be better multimedia? (The study then
mentions the “voice”). Attention-grabbing abilities could become “body
language”? As this and gestures are cited later.

4) The term “simulation design” could become “simulation design for lab
testing”.

**Ioannis Comments:** All of the minor comments were addressed. Please see the relevant sections of the document

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Reviewer B:

1. The abstract gives relevance to a definition of “user experience,
accessibility and usability” in the context of game-like mobile guide
applications. I think that this definition should be referred to in section
6 (Design Guidelines), for instance grouping tables or in some other
significant way. I also do not understand well the definition in 2.3 and I wonder if it is really relevant in the economy of the paper.

**Ioannis Comments:** The definitions in 2.3 were re-written to ensure clarity. Then, in the introduction of section I specify that the guidelines are meant to optimise the player experience as defined in this paper. Grouping of tables is not possible as a single guideline may have implications for more than one aspect of the player’s experience (e.g., Cognitive accessibility and/or usability).

1. In the abstract, more relevance should be given to the findings of the
conducted empirical studies. The authors should mention that this paper
provides a synthesis of their working experience and some relevant
guidelines. Also, considering what written in the conclusions, the
limitations of the work should be stressed, particularly the simulation in indoor settings, which does not allow an authentic evaluation of the user experience and of the framework.

**Ioannis Comments:** Both the abstract and conclusions were updated to take into consideration the above comment.

1. Design guidelines are very interesting and exploit a significant experience
of the authors. But section 6 should be improved with an introduction and
the tables could contain more columns, indicating the source (literature,
mentioned experimental tests, experience) (the ID column could be dropped).
Some info is already present. Some other could be added. The relationship
between the guidelines and the features of the proposed framework should be made more explicit, so to show the relevance of your framework for
conducting experiments (section 5 should be improved in this regard) and for eliciting guidelines.

**Ioannis Comments:** Each table in section 6 contains a source column clarifying the source (i.e., experimental study, literature, etc.) of the design guideline.Also, as section 5 has now been clearly connected with the research framework, it should be easy for interested readers to connect the guidelines with the framework. Finally, section 6 has been improved with an introduction.

1. The abstract and conclusions should be upgraded based on the revision.

**Ioannis Comments:** The abstract and conclusions were updated based on the provided comments