SYSTEMATIC LITERATURE REVIEW
VIDEO GAMES FOR CHILDREN WITH SEVERE MOTOR DISABILITIES

1. **Description of field of interest:**
I would like to develop dynamic video games for children with severe motor disabilities that can be played with a single switch input. Therefore, I need to know which games with similar characteristics have already been done, what alternative interaction modalities are available to allow children with severe motor disabilities to access these video games and what useful design reccomendations have been been elicited that can be used for my specific work.

2. **Research questions specification:**
RQ1: What is the state of art in the field of accessible video games for children with motor disabilities?
RQ1.1: Who is interested in this field?
RQ1.2: How is the field segmented?
RQ1.3: Has someone already done exactly what I intend to do?
RQ1.4: Is there something already done that can be used in my research?
RQ1.5: Which limitations do previous works have?
RQ2: What is the strenght of the found results?
RQ3: Which conferences and journals have already published something related with the field?
RQ4: Which technologies are usually used for my purpose?

3. **Pilot study:**
The first phase of this research consisted in a preliminary study with 1 researcher, aiming at:
3.1: Finding the right nomenclature and terminology in the field of accessible video games in order to re-word the research wuastions, if necessary.
3.2: Reduce the complexity of the research by adding contraints to avoid results that are not interesting or relevant to the field of study.
3.3: Include already known studies

4. **Search strategy:**

Key words: accessible video games, one switch interaction, children with disabilities, motor impairments, spinal muscular atrophy, cerebral palsy

Search string:

((NOT(deaf) AND NOT (blind)) AND (((videogames) OR (video games)) AND ((accessible) OR (accessibility)) AND ((children) OR (kids)) AND ((disabilities) OR (disabled) OR (impairments) OR (impaired)) AND (motor)))

5. **Resources for the research:**

The database used for the research is:
ACM Digital Library

6. **Document selection:**

The material selection was filtered according to the following *exclusion* material:

I ***exclude (ignored)*** documents that:
I1. Have been published before 2005.
I2. Are not related to software engineering.
I3. Are related to games different than console, PC or mobile games.
I4. Are a duplicate of other document.

I5. Are specifically related to elderly or aging associated conditions.
I6. Are related to persons able to use standard input devices (e.g. mouse, keyboard, joystick)
I7. Do not present a validation/evaluation or requirements elicitation phase
I8. Are not related or relevant to the field of accessible video games
I9. Are not written in English.

I ***include (accept)*** documents that:

A1. Directly answer one of the research questions.
A2. Present guidelines useful for my research.
A3. Are realted to accessible games for persons with motor disabilities.
A4. Present novel interaction modalities to access electronic devices.
A5. Explain an accessible game design.
A6. Summarize available technologies or interaction modalities related to accessible gaming.
A7. Report test and evaluation of accessible games with real users.

7. Result analysis:

Using the search string I found 155 documents, after applying the selection criteria the list of documents was reduced to 23 elements.

The next steps consists of a complete analysis of the 23 documents in order to answer the research questions listed above. The results of such complete analysis will be part of the PhD thesis I will be writing in the following months.