How Can Computer Science Help Cancer Survivors Children?

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Some possible computer applications to develop:

1. HERO "4U": Thinned application that provides guidelines to encourage the return to the daily life of children cancer survivors.
   **Objectives:** Guiding families + Raising awareness of teachers and students + Avoiding bullying in school

2. HERO "WeDo": Minigames for the neurolinguistic development of the child. The design of these games would be done in a collaborative way with the affected children themselves and others in their family and school environment.
   **Objectives:** To involve children in cooperative didactic practices, developing video games advised by psychopedagogues.

3. HERO "AvatAR": "Virtual Avatar" that will be listening to the child's oral explanation of a subject, will detect their mistakes, and will suggest new alternative terms related to the subject. This could do so immediately, or at the end of the child's utterance.
   **Objectives:** To gauge error detection, and to support homework in disadvantaged family settings.

4. HERO "playMusic": An application that, through songs, helps the child to develop his / her memory and linguistic abilities.
   **Objectives:** To help younger children recover their cognitive abilities through multimodal didactic practices.

5. HERO "Passport": Cancer passport taken from the patient's medical history.
   **Objectives:** Support the clinical follow-up of the patient before, during and after the oncological treatments.

6. HERO "Evaluate": Application to support the psychopedagogical evaluation of the child.
   **Objectives:** To support the psychological monitoring of the patient before, during and after the oncological treatments.

**THOT**

"Training and Help after Oncology Treatments"

Software supporting psychopedagogues to configure children's study exercises

**Objective:** Helping the child to improve their academic performance

**Natural process:**

**THOT software:**
- **Basic features:**
  - Trials
  - Cognitive simplification of tests
  - Trials associating term-definition-concept
- **Advanced features:**
  - Predict text and simplify text
  - Collection and presentation of data (graphs)
  - Arrangement of samples and comparisons
  - Gamification and prize
  - Generate randomized trials and display in table

**Methodology of tests:**
- Conditional discrimination (samples and comparisons)
- Trainings and tests

- Equivalence classes
- Trainings: linear (A-B / B-C) or many-to-one (A-B / C-B)
- Tests: symmetry, transitivity or equivalence

**User Interface Design**