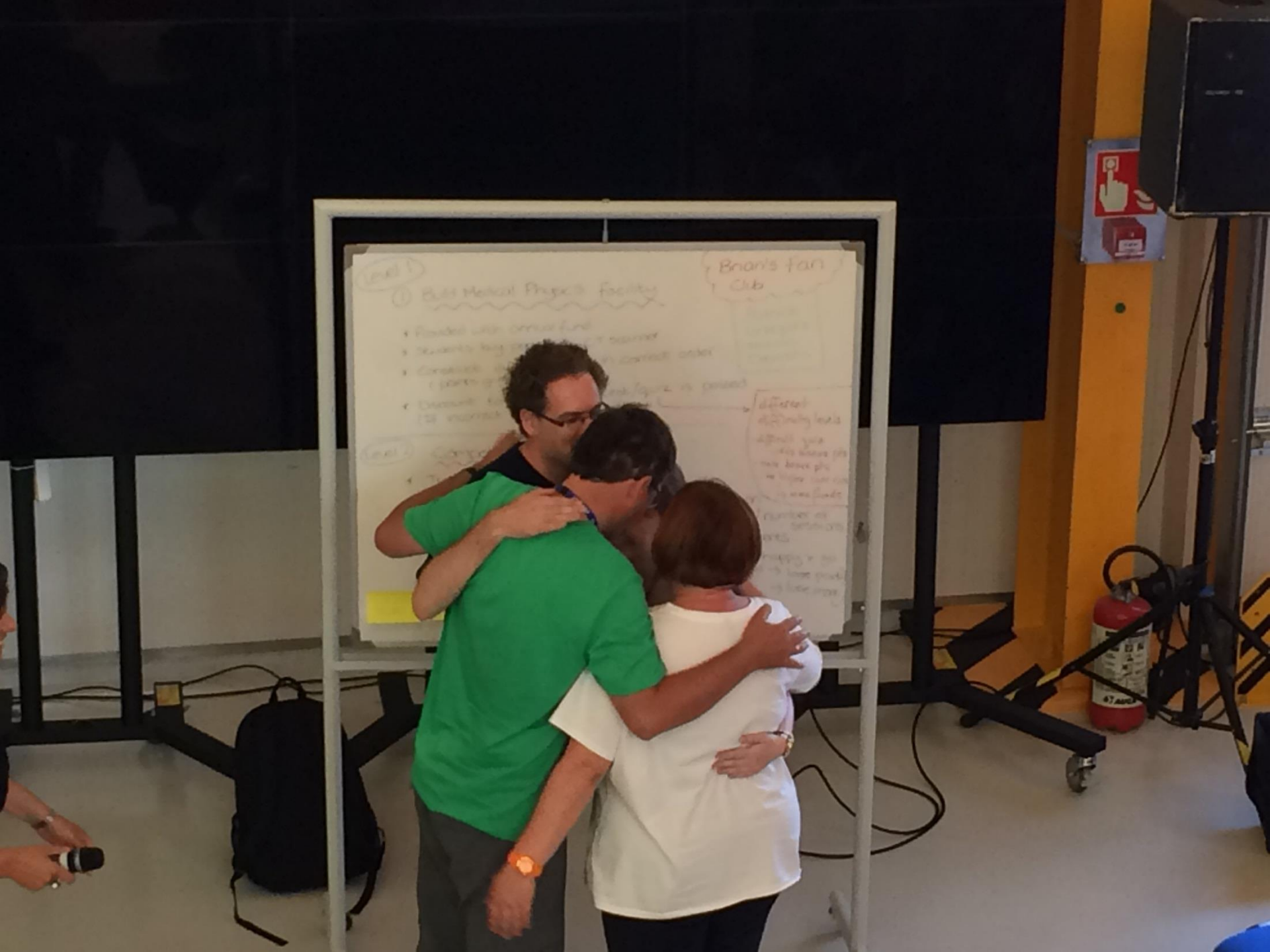
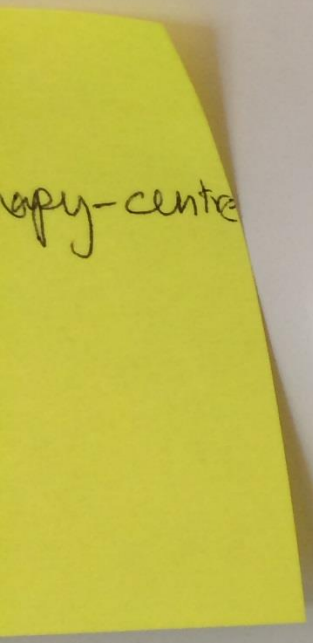

Brian's Fan Club
SOMETIMES I PRETEND TO BE NORMAL
SO I GO BACK TO BEING ME
LIFE IS A


Brian's Fan
Club



Learning Intention

compare and contrast different imaging techniques

→ advantage / disadvantages.

Level 1

① Build Medical Physics Facility

* Provided with annual fund
* Students buy parts eg. CT scanner
* Construct different areas in correct order (points given)
* Discount for parts if a test/quiz is passed (If incorrect → points lost)

Brian's Fan Club

Patrick
Grzegorz
Nataša
Deborah

different difficulty levels:

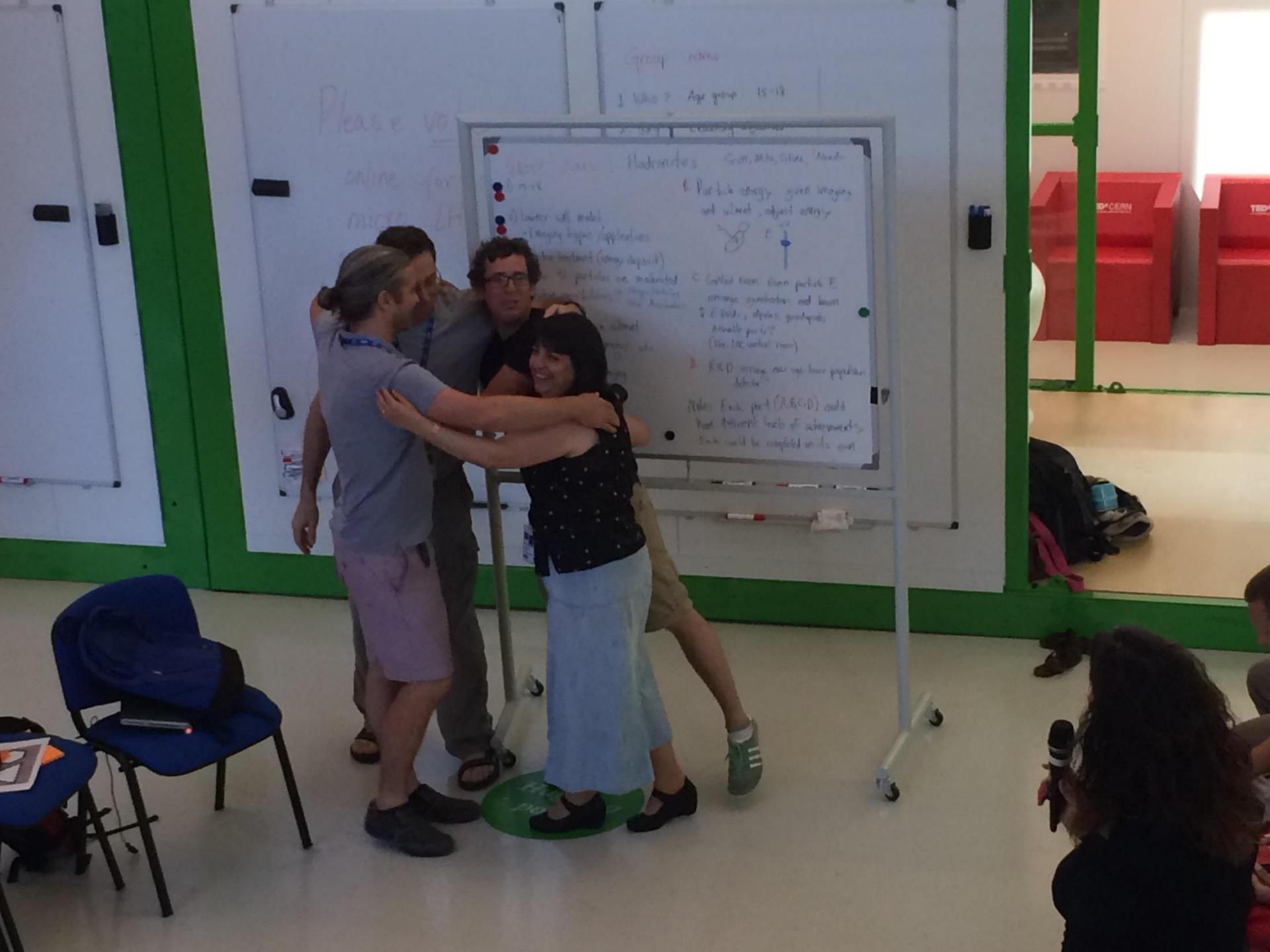
- difficult quiz yields bonus pts
- more bonus pts
  - ↳ higher cure rate
    - ↳ more funds

Level 2

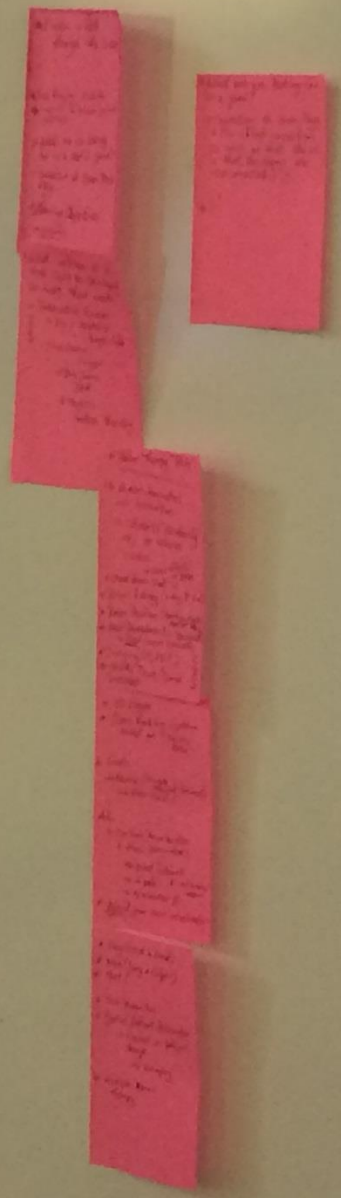
Competition

* Two hospitals compete to save the most patients.
* Student selects the dosage/energy/location of markers / angles of gantry / treatment type / number of sessions.
* Hospital receives more money for surviving patients.


Group name
1 Who ? Age group 15-18
The Smurfs
Hadron Therapy Tech
Tools (Novice → Advanced)
Difficulty (Simple → Complex)
Control
Beam (Energy, Ion Type, etc.)
Accelerator (Magnets, etc.)
Imaging (PET, CT, MRI)
3D imaging of organs
TED x CERN
TED x CERN
Bugging point


Hadrontes

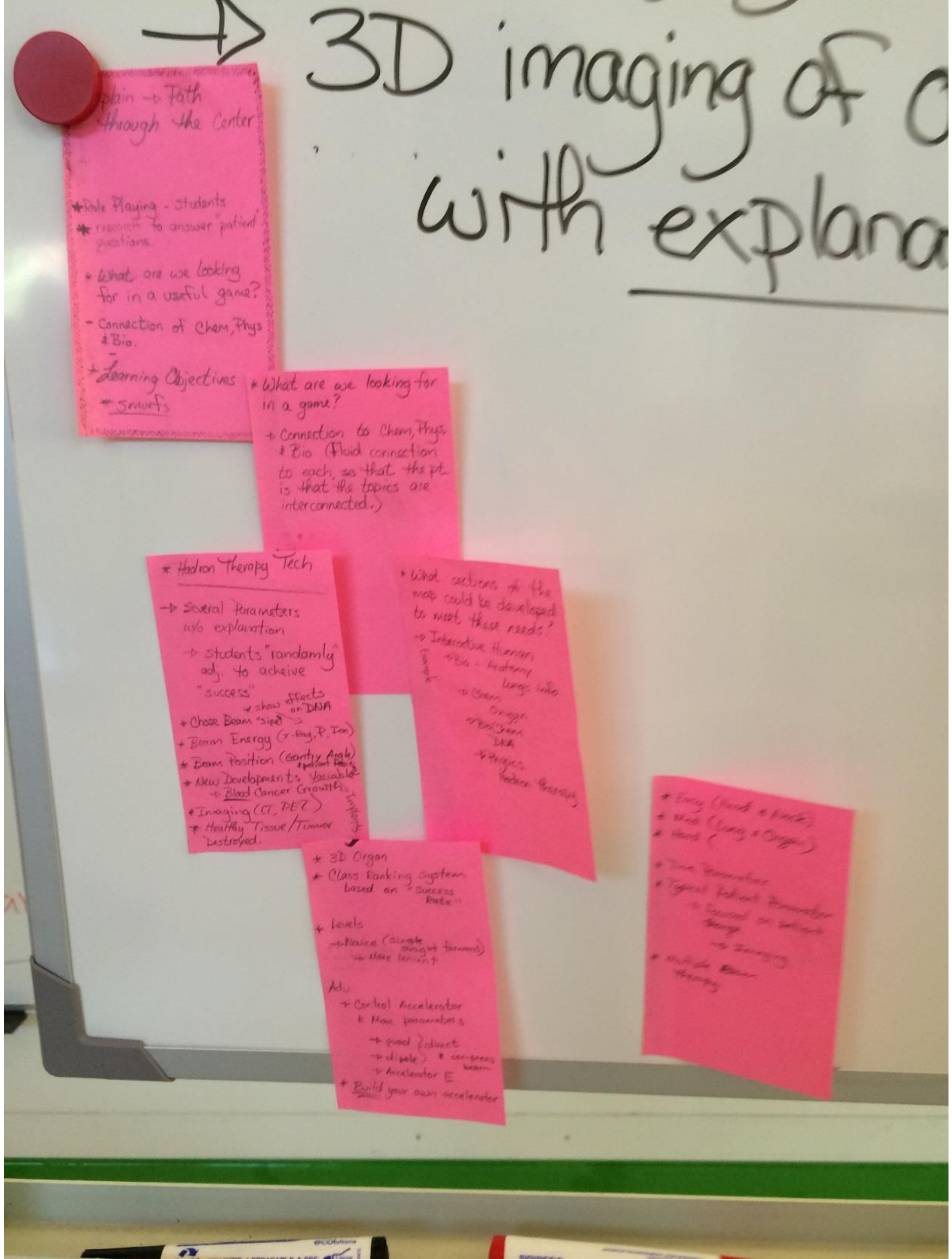
The Smurfs: Miloš, Gurpreet, Patrick, Zach




module name
project
container nos
started


Particle accelerator

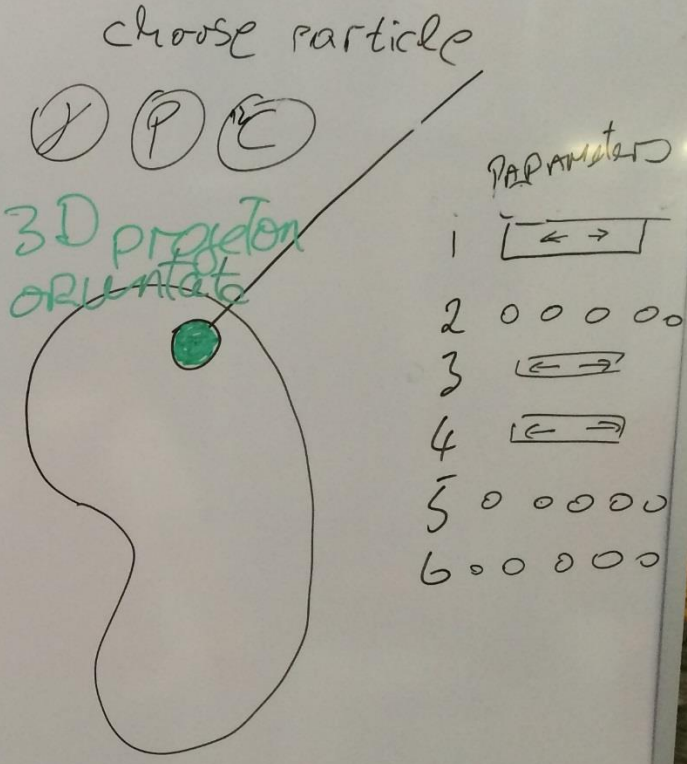

Group name
1 Who ? Age group 15-18
The Smurfs Milos Gurpreet, Patrick, Zach
Hadron Therapy Tech
Tasks (Novice → Advanced)
Difficulty (Simple → Complex)
→ Control
→ Beam (Energy, Tuning, Type, etc.)
→ Accelerator (Magnets, etc.)
→ Imaging (PET, CT, MRI)
→ 3D imaging & organs with explorations
choose particle
Hugging point
TED CERN
TED CERN


3D imaging of
with explana
Path through the Center
* Role Playing - students
* research to answer "patient" questions
* What are we looking for in a useful game?
- Connection of Chem, Phys & Bio.
* Learning Objectives
* smurfs
* What are we looking for in a game?
* Connection to Chem, Phys & Bio (Fluid connection to each, so that the pt. is that the topics are interconnected.)
* Hadron Therapy Tech
-> Several Parameters w/o explanation
-> students "randomly" adj. to acheive "success"
* show effects on DNA
* Chose Beam size
* Beam Energy
* Beam Position (Gantry Angle)
* New Developments
-> Blood Cancer Growth
* Imaging (CT, PET)
* Healthy Tissue/Tumor Destroyed.
* What sections of the map could be developed to meet these needs?
-> Interactive Human
* 3D Organ
* Class Ranking System based on Success Rate
* Levels
-> Novice
Adv
* Control Accelerator
* Build your own accelerator

The Smurfs : Miloš, Gurpreet, Patrick, Zach

Hadron Therapy Tech

* Levels (Novice → Advanced)
* Difficulty (Simple → Complex)
  - → Control
    - → Beam (Energy, Position, Type, etc..)
    - → Accelerator (Magnets, etc..)
    - → Imaging (PET, CT, MRI)
  - → 3D imaging of organs with explanations.



FUN
SUCESS ↔ SCORE


Please vote
Group name
1 Who ? Age group 15-18
2 Why ? Learning objectives
3 What ? Parts of the map
Hadrontes
Hugging point


module name
project
container no.
started


COLLABORATORS
LIVIA ANNE RIGONDA THOMAS
SUBJECTS
IMAGING CT / PET
TREATMENT PLAN
BEAM ACCELERATOR
X-RAY VS. PROTON THERAP.
CANCER THERAPY
GAME
JIG SAW
ADVENTURE STRATEGY
DIY-CENTER
LEVEL I II III
DIALOGUE STUDENT – TEACHER
CLASSROOM
GRADES + TESTS
CONTACTING EXPERTS
CERN


COLLABORATORS
LIVIA ANNE RIGONDA THOMAS
SUBJECTS
CLASSROOM


project
container
catch BOX

Simulation / Game?

- Patient irradiated with ions
- Energy of ions can be adjusted
- Angle of ion beam can be adjusted

adjusted with controls ~~that~~ by students.

cern.ch/virtual-hadron-therapy-cente

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* Two hospitals compete to save the most patients.
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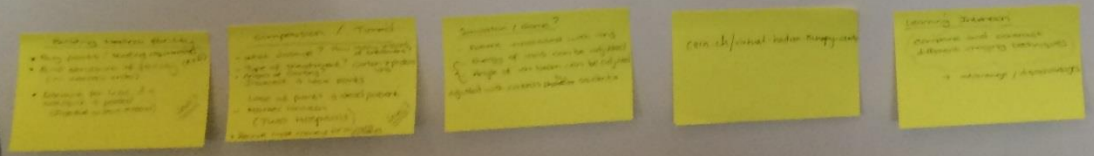
* Hospital receives more money for surviving patients and patient satisfaction *(Patient may not be happy & go to another hospital → lose points) → lose money)




The Smurfs

GROUP NAME: Hadronites Scott, Mike, Silva, 'Nando

1) 15-18

2) Learner will model
- Imaging types/applications
- Hadron treatment (energy deposit)
- How +/− particles are accelerated
- Future possibilities?

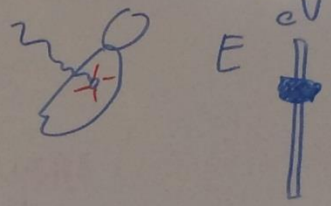
3) A. Imaging: Assign ailment

lung ○ brain ⊗ pancreas ○ etc...

Choose appropriate imaging

PET ○ e^+ ○ etc...

B. Particle energy: given imaging and ailment, adjust energy



C. Control room: Given particle E arrange synchrotron and beam
↕ E fields, dipoles, quadrupoles
Assemble parts?
(like LHC control room)

D. R&D - arrange new age laser propulsion detector?

Note: Each part (A, B, C, D) could have different levels of achievements. Each could be

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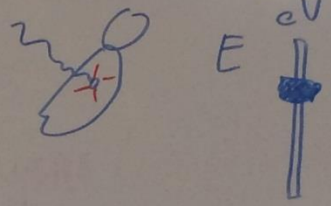

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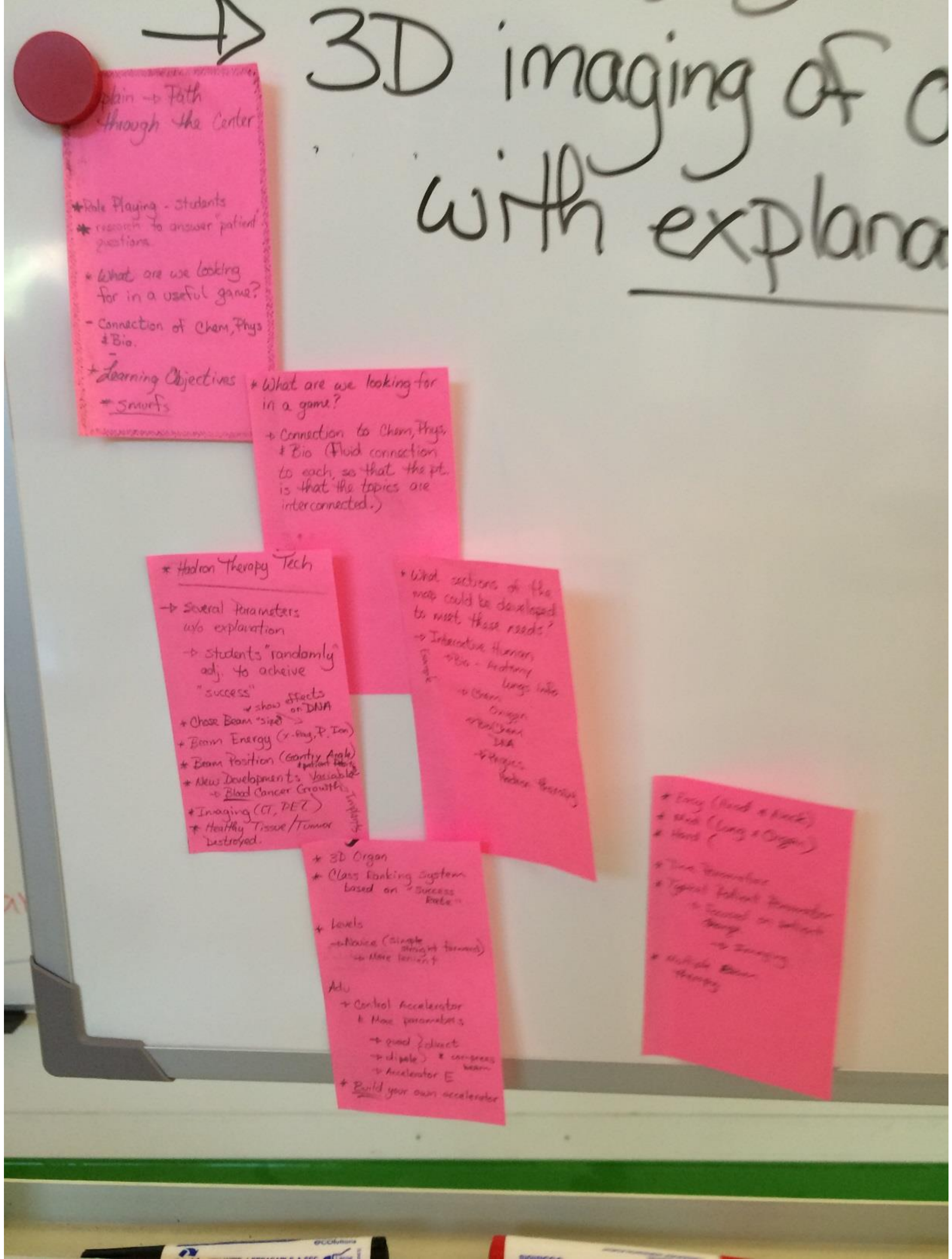
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* Control Accelerator
* More parameters
→ Accelerator E
* Build your own accelerator


140
Queensbury Kenton
Harrow on the Hill
Northolt Yeading


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CMU 4T
PR 786
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Queensbury Kenton
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