Exten DT²

OMT Meeting: 25 August 2023

WP2 – WP9 Updates

WP2: Progress/Updates: The Exten.(D.T.)2 Framework

- <u>Submitted Deliverables end of May:</u>
  - D2.2:The Exten.(D.T)2 Framework (version 1. M7-9)
  - D2.3 Guidelines for Mass Development of the Framework (version 1 M7-9) that is R/DEC + added in the website

  - → Next deliverables (final versions of Framework and Guidelines) due at the end of the project M35
- Preparing the way forward on getting ongoing feedback from the work of the other WPs to inform the Framework and guidelines (given the project's time plan this will happen anyways from the tasks as it goes)
- Share plan/updates during the meeting in Gent

WP3: Updates July & Aug 2023

Updates:

- Submitted Del.3.3
- Data analysis completed for: 2 focus group discussions, 80 min screen recording data
- 1 teacher Jordan, intern for 3 months - to implement and evaluate our approach with her school and colleagues
- "nQ for students" - developed functionality for mapping students to teachers and schools; discussed feedback from students and produced mock-ups on how to improve the design of the authoring tool

Actions:

- Data analysis of questionnaire data
- Feed into Evaluation Deliverable by Tue next week
- Conduct interview with participating teacher (she is away)
- Contact Becky for Y2 activities
- Recruit teachers for Y2 activities

WP4: Work in Progress / Updates

- Exten DT2 platform is deployed on AWS via this URL: https://extendt2.com
- Vrobotics tool named GearsBot was proposed by NTNU and NKUA. This tool is partially integrated to Exten DT2 platform.
- Educational tools implemented extensions:
  - MaLT2 extended with 3D Printing and Learning Analytics (LA)
  - SorBET with Augmented Reality and Block-based programming integration. In addition, software was updated with new logo, navigation bar, more online examples, user manual, support of two languages: English and Greek, some UI improvements, and possibility to save a load the games online.
  - ChoiCo extended with Augmented Reality, Google Maps API, additional functionalities with Google Maps.
- New version of nQuire for students was developed by OU partner and accessible at https://learn.nquire.org.uk/signin
- ALA prototype was implemented using AuthELO tool.
- ALA workshop was performed by SIMPLE and NKUA partners in July 2023 (MaLT tool)
- The deliverable 4.2 is sent to reviewers

WP4: Upcoming Work

- Connect nQuire for students with Exten DT2 platform (SIMPLE, OU)
- Planning for LA and dashboard requirements gathering in Autumn 2023 (NKUA, SIMPLE, LNU, including writing ethical application)
- vRobotics tool: update the data collection method (SIMPLE, LNU)
- Dashboard: Develop first initial prototype based on the identified requirements in Del 4.1 and data collected from first ALA workshop in July 2023 (LNU)
- Continue extending the Education Tools (NKUA)

WP5: School Interventions Year 1 Overview

Intev. Code	No of st.	L	Tech.	Activity Plan Title	Domains
NKUA011	30	Sec	MaLT2	Design of a vertical garden watering system installation	**Programming**, Math, Engineering, Environmental Education
NKUA012	68	Sec	ChoiCo	Playing with Environmental issues	Computer Science, **Programming**, Environmental Education
NKUA013	6	Prim	ChoiCo	Food Shopping and balanced choices	**Programming**, Balanced diet, Math
NTNU011	60	Sec	ChoiCo	Be a Cybersecurity Master	**Programming**, Robotics
NTNU012	15	Sec	Gear Bots	DT learning with focus on Virtual Robotics	**Programming**, Digital education, Math
OU011	23	Sec	ChoiCo/ SorBET	Reducing Energy Cost	Computer Science, Environmental Education
UGENT011	10	Sec	ChoiCo/ SorBET	Computational Thinking	Environmental Education, Computer Science
SUM	**212**				

Skills

- **Collaboration**
- **Critical Thinking**
- **Computational Thinking**
- Creative Thinking
- Digital Literacy
- Probem Solving
- Confidence

- **DEL 5.2 (M12)- August '23- DONE**

Reflection

1. **Digital Technologies and Design Thinking process→** constructionist nature of the ExtenDT2 technologies was strongly related to the open and iterative nature of the DT process→ rapid prototyping
2. **Grouping and collaboration** → provide some recommendations?
3. **Integration of School Curriculum with Design Thinking →** the DT Activity Plan Template document helped teachers to connect Design Thinking with existing curriculum subjects and concepts such as mathematics and programming
4. **Duration** of DT activities ---++*nQuire (and Discover phase) needs more time*
5. **Teachers as designers** during the activities → responsive design - DT in educational design
6. **Data collection** and research permissions
7. The **role of researchers** in the interventions
8. **Assessment** of the learning process

++ *design for non- STEM domains?*

WP5 Interdependencies & Implications

- School Interventions Plan Excel Y2 to keep track of all interventions

- **WP3 → Design of Activity Plans by teachers**
  - Collect Activity Plans Y2 here (Task 5.1)
  - Also upload teachers' artefacts and material prepared for students

- **WP7 → Data Collection**
  - Evaluation Report for
    - NKUA PD program
    - NKUA011- +descr analysis part
    - NKUA012+descr analysis part
  - Track data collection process here or using the Checklists

WP 6 Professional Development

- **Professional Development:**
  - June 23: poster presentation on symposium with inspectorate (Brussels)
  - July 3: UGent internal meeting EduMa: presenting Exten[dt]2 to collegues teacher programme
  - Meetings with:
    1) coordinator for supporting group of schools in Flanders (Vlaamse Ardennen): September 2023 presentation of project to group of teachers, looking for participants
    2) director of University College (Ghent) (scanning opportunities); second meeting October 2023
    3) director of school in Ghent: januari: PD activity on 2 x 2h, asking for implementation in project week in the school (May)
  - Evaluation of implemented PD modules (NKUA + UGent) – revision of module/supporting materials

WP 6 Professional Development

- **Deliverable D.6.1 (M12)**
  - Report on pilot PD activities: under revison

- **Feedback**
  - \- Time: module too short to deliver satisfying digital artefacts;
  - \- Practical implementation in a classroom setting
  - \- Technologies, mixed
  - \+ Methodology

  - Diversity of the group important for experience of the activity

- **Co-creation**
  - September 27: asking LIO students for participating for master thesis
  - 2023-2024 students co create project for their school

WP7: Evaluation updates

- Reports from 6 school interventions – waiting on 2
- Qualitative cross-case analysis commenced

- Quantitative cross-case analysis delayed
- PD evaluation data delayed – reports due

WP7: Next / Upcoming Work

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WP8: Updates July and Aug 2023

Updates:

- MIS4TEL:
  - Proofs reviewed
- EARLI conference
  - Manolis is joining
  - Poster prepared by NKUA
- Newsletter 2 uploaded to project website

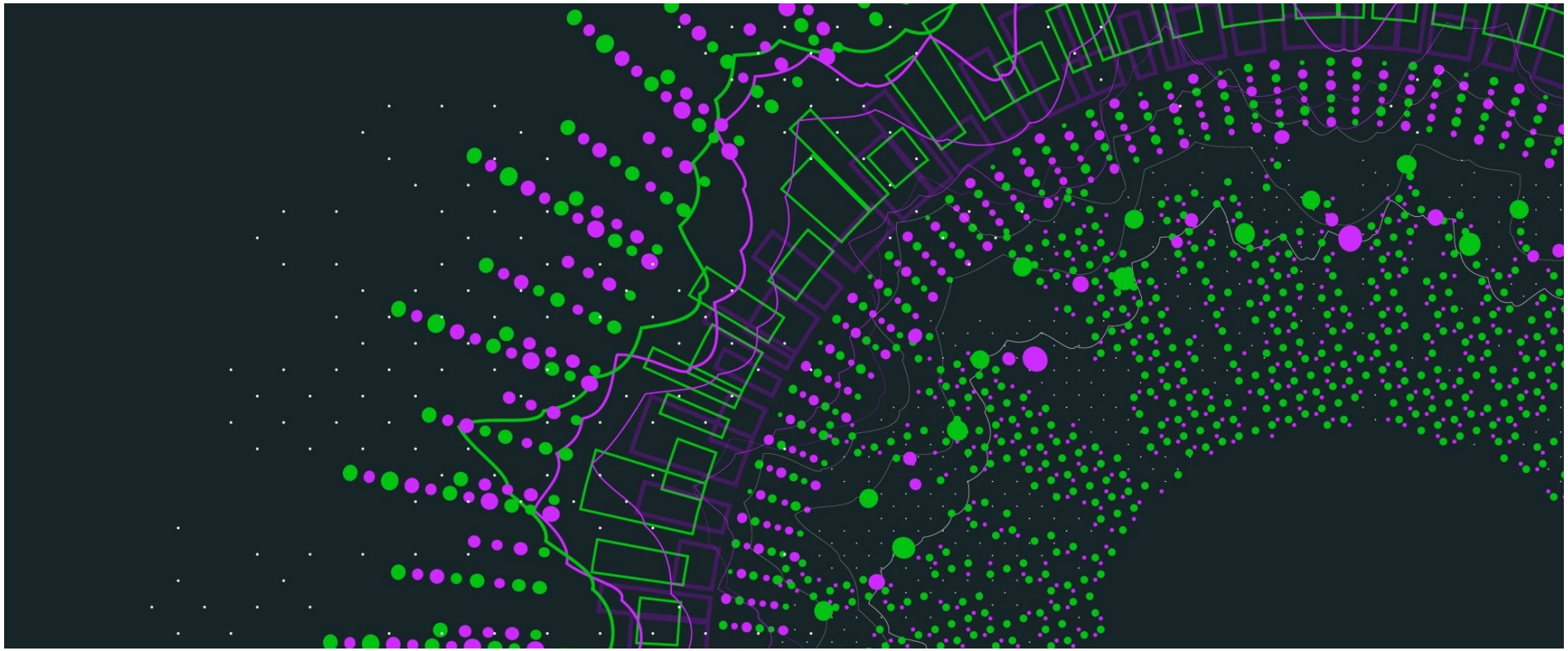
Actions:

- Update the design of project website to showcase teacher material
- Action **ALL**: Add any dissemination activities here: https://docs.google.com/spreadsheets/d/1dY063q-GuIfrVW_eiUMBj-8q0bLWCXnlEecJgtqyY_U/edit
- Action **ALL**: Direct users to technologies VIA THE WEBSITE ONLY! We need to hit 10K visits! https://extendt2.eu/technologies/
- Action **ALL**: Weekly social media updates - pls LIKE and RESHARE

WP9: Update

- EC requires Ethics Advisory board to have an oversight of data being collected and review of data itself.
- Carina has discussed this with Adam Hedgecoe: For ExtenDT2 it is not considered necessary in Year 1.

Responsible Research and Innovation (RRI) Statement



What is RRI?

https://rri-tools.eu/about-rri

RRI

- public engagement
- open access
- gender equality
- science education
- ethics
- and governance

Actors

- researchers
- educators
- policy makers
- business and industry
- civil society organisations

RRI & ExtenDT2

- In project design
  - structure/organisation
  - ambitions (DT & societal challenges)
  - engagement with schools (gender split, science education)
  - co-design & co-production
  - dissemination
  - DMP (open)
  - ethics

The Process

- Diverse and inclusive
- Anticipative and reflective
- Open and transparent
- Responsive and adaptive to change

Boilerplate Statement

Responsible Research and Innovation (RRI) is interactive, iterative, and involves high levels of transparency with regular reflection on processes and goals. Given the rapidly changing technological landscape, we aim to anticipate potential issues before they arise. The project design has RRI embedded throughout in the following ways: in its structure and organisation; its ambitions in terms of engaging young people in design thinking for societal challenges; its engagement with schools which allows equitable engagement of young people regardless of gender and an opportunity for young people to engage meaningfully with scientists on topics within STEM education; the project design involves co-design and co-production; there is active engagement with the public through dissemination activities; the data management plan (DMP) emphasises the importance of open access data and publications; and finally the project team is actively involved in considering emerging ethical issues throughout the project, guided by an independent external advisor and ethics advisory board. Throughout our activities we aim to be diverse and inclusive, for example, listening to and including diverse groups of people in decision making processes. Through our deliverables, project newsletter, engagement activities website and the research itself, we aim for open and transparent communication. The project partners regularly reflect on the motivations for our research against a backdrop of the wider ethical and societal context that the research is located in. We aim to be responsive and adaptive to the changing needs of our stakeholders and re-evaluate the research trajectories in light of new evidence.