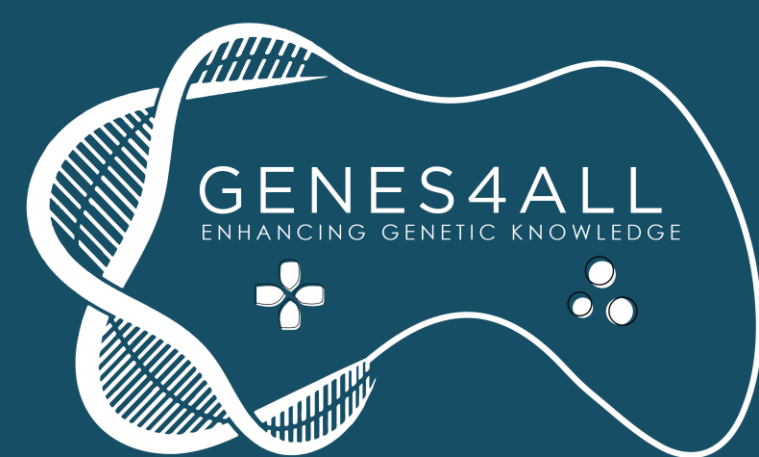




Genes4All: A digital serious game supporting genetic counselling and testing in neurodegenerative disorders

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Genes4All is an Erasmus+ project developing a digitally supported model for genetic counselling in neurodegenerative disorders, integrating expertise in clinical care, genetics, digital health, and education. It comprises three components: a clinical practical guide, a serious game to improve genetic literacy within the public, and an open-access educational platform.

INTRODUCTION

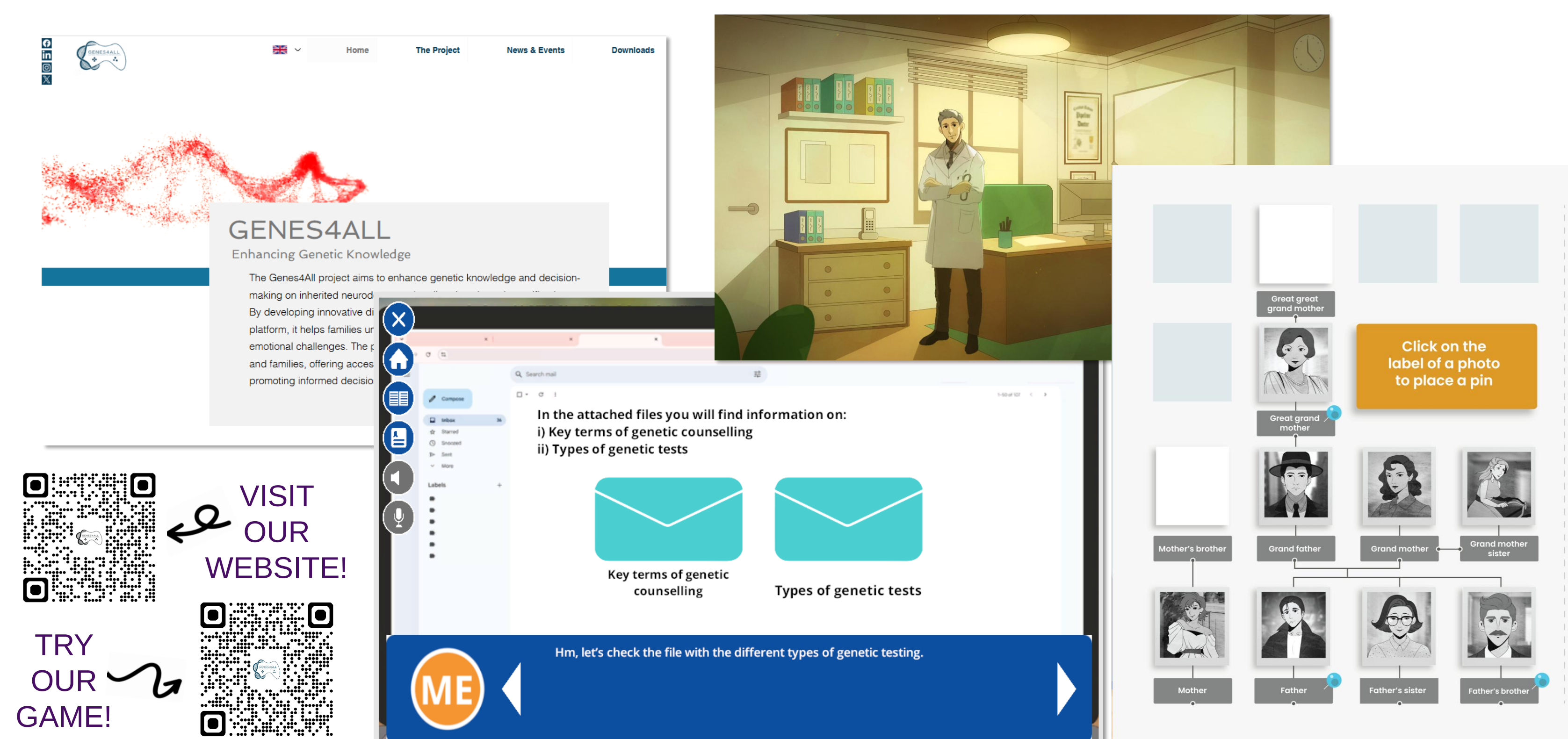
Genetic counselling and testing in neurodegenerative disorders are increasingly relevant in clinical care, yet implementation remains challenging. Patients and relatives face complex decisions about testing, risk interpretation and long-term planning, while access to specialized counselling is often limited. Clinicians in dementia care, in turn, frequently lack structured, accessible tools to support communication of genetic risk and testing options in routine practice. Genes4All addresses this gap through a digitally supported counselling model integrating a clinical practical guide, a serious game, and an educational platform.

METHODS

At the time of submission, the project has been running for approximately 18 months. A first version of the serious game has been tested with 25 end-users across participating countries, including 15 members of the general public or relatives of people with neurodegenerative disorders and 10 healthcare professionals. A second round of this piloting phase is expected to occur during 2026 together with the testing of the digital tool and the practical guide.

RESULTS

The serious game has been designed as an educational tool to support understanding of inheritance, genetic testing, risk, and health-related decision-making, while the service delivery guide and open online platform are being developed to facilitate implementation in clinical and support settings. Initial user-centred testing has been incorporated into the development process to assess usability, comprehension, and relevance for both relatives and healthcare professionals,



CONCLUSIONS

Genes4All introduces a scalable, digitally supported approach to integrating genetic counselling and testing into dementia care. By combining clinician guidance, digital education, and patient-centred support tools, the model has the potential to strengthen genetic literacy, support shared decision-making, and improve the integration of genetic counselling into neurodegenerative care pathways.

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