Using App Inventor the Irish Experience (At all Levels in Education) (App Inventor ANSEO!)

Natasha Kiely
Technology and Flexible Learning
Limerick Institute of Technology
Thurles, Co. Tipperary
Ireland

natasha.kiely@lit.ie

Abstract

With a growing interest to introduce computer programming at all levels within the Irish Education System, this talk describes the experience of an Irish college lecturer in removing the barrier to digital literacy and embracing the future of coding through the use of the MIT App Inventor Platform. It will demonstate how this tool has effectively supported the promotion and learning of the Irish language within the Irish Primary School sector. It will further describe how Second level students have embraced this technology in an attempt to compete in national competitions all of which support the creation and enhancement of a digital portfolio. Finally it will showcase the prototypes developed by third level computing students to support their understanding of human computer interaction and mobile applications development. The key meassge being to demonstrate how App Inventor can be used by a cross section of academica for a broad range of activities, all of which aim to inspire a creative confidence in students and demonstrate how ideas can develop into tangible and complete artifacts when constructed with suitable tools.

1. The Irish Primary School Experience.

The Primary School experience begins in a small school in Co. Tipperary in southern Ireland where 35 children are currenly enrolled. These children had no prior knowledge of computing other than their experience of using computer consoles and smart phones in a gaming context or in school through the use of a desktop computer and a smart board. Their knowledge of mobile application development was limited to their familiarity with games such as Angry Birds and FIFA 14. They were set the challange of creating a mobile application which would support their learning of the Irish Language. They choose to create an application similar to Four Pics One Word. They identified four pictures which would each give a clue to a particular Irish word. The user was required to enter the correct word to move to the next caption. They began by creating paper

based low fidelity prototypes and eventually were assisted in creating the application through the App Inventor framework. They then deployed the application to a mobile device. The enjoyment and enthusiasm within the class room far surpassed all expectations associated with such a learning activity.

2. The Irish Second Level Experience.

The Second level experience continues with students wishing to construct apps to support research and development in education and the community Six female second level students set out to create mobile applications to support research conducted for the 50th year of the BT Young Scientist and Technology competition. This anual competition is open to all Irish Secondary School students and thousands compete every year to be selected to attend the event and exhibit their research at the BT Arena at Dublin's RDS. Both groups were selected to attend the event. Group 1 created an app to support students sitting their Leaving Certificate Examination. The app entitled Learning to Learn aimed to teach students Biology definitions utilising a dynamic learning methodology which has been proven to be effective when learning such terms and definitions in this context. Group 2 created an app to support students to overcome issues of Bullying. Both groups were selected to attend the annual exhibition which showcased 550 student projects over a three day period. All students found the App inventor framework intuitive and easy to work with. They successfully built both applications. These appliations were demonstrated and received favourably by the judges at the competition.. Their knowlege of the MIT App Inventor framework spread throughout the shool with additional apps being developed for other national competitions such as SciFest and App4Gaps. The achievements of which resulted in a joint first placement for both groups in the technology sector of the SciFest competition.

3. The Irish Third Level Experience.

The third level experience introduced App Inventor to support the construction of high fidelity mobile prototypes in the area of Human Computer Interface Design. The App Inventor Tool was utilised in labs for a period of four weeks before students were asked to deliver a suitable design solution to support the development of a mobile application in two distict areas namely Children and Nature and Community Life. Applications such as animal matching games, nature trails and wildlife scrapbooks were invented and designed to support children and nature in an attempt to bring technology outdoors and integrate it with nature. Designs demonstrating farm animal logging systems, sport event apps, missing animal and medication monitoring solutions are to name a few of the inventive applications which were designed in these categories.

4. The Irish Coder Dojo Experience.

Finally The App Inventor Framework was also introduced at the Thurles Coder DoJo Club in January 2014. This too has proved to be a very sucessful tool when utilized in an environment of 50 students ranging from 10 years to 18 years. It offers a wide range of diverse and engaging activities for all students. It gives students the abillity to create and explore innovative ideas and applications in a collaborative environment. The use of the blocks editor has proved to be successful when introducing students to the key concepts of event driven programming. Many attendees transitioned quickly and easily from Scratch to App Inventor due to the similar interface functionality and components.

5. Conclusion

In conclusion over one hundred mobile apps have been invented through MIT App Inventor some of which can be viewed by contacting natasha.kiely@lit.ie. This is the ultimate endorcement to the ease and simplicity with which App Inventor can be introduced within any class room environment at all levels of Education. It has proved to be an invaluable tool for teachers and learners to bring creative ideas to fruition. The vast amount of publically available resources and on-line support will ensures the continued success and development of applications utilising this framework. Through collaborative processes and projects we can facilite the identification of innovative gaps and reach new heights in the development of mobile apps through the adoption of the MIT App Inventor Platform.