

## Marco Beccarini & Aastha Saraf

The first project we had assigned in the Virtual and Augmented Reality class was to augment the front and back cover of a classic book chosen by us. The augmented reality part was designed using Unity with Vuforia, a SDK specialised in AR. As a book, our team made by Marco Beccarini and Aastha Saraf, decided to choose Harry Potter and the Prisoner of Azkaban. This book was chosen since we thought that, augmenting its cover, a magical augmented world could appear and tempt anyone to buy it.

In fact, using these kind of technologies to advertise physical objects could change the future of shopping. Especially for books, if libraries had some pair of AR glasses that you can wear when you walk in, look at any book and get a visual feedback of what you might find inside, it would probably be so much easier to choose which book you like the best and you'd enjoy the most. By adding virtual buttons, videos, reviews, sounds, the book could be turned into an interactive object that is able to give the shopper some additional information that otherwise couldn't be found in a normal library.

Starting from our project, in the front cover we decided to add a set of models taken from the book. Some of them were designed by us, others downloaded from internet. Some of them are animated while some are still. Sounds like the Harry Potter theme song can be heard and a magic wand, after pressing a specific button, pops up and starts speaking to the user briefly describing the book. If this was implemented in every book in a library, anyone could simply walk around, read the books description and eventually interact with the augmented world after wearing AR glasses. Being able to actually see a scene from the book could clarify in the shopper's mind how interesting that book seems and if it's worth spending money on. As we did in our project, translation buttons could be added too, which translate every sound or augmented text to specific languages. Now anyone who's in a foreign country and still doesn't understand completely the foreign language can at least have an idea of what's in the book and see if they are interested. We limited ourselves in augmenting just the front and back cover, but what if all the pages in the book were to be augmented? It would be possible to buy books in any language and being able to read them in a selected language. The language barrier would not exist anymore and this could be extended to the point where you buy just the book's cover and would still be able to read the book simply through scrolling the virtual pages using virtual buttons.

In the back cover we added a set of reviews that could be used to see what other people thought of the book. Textual reviews from famous websites could be loaded automatically on the back. In our project, the user can use a button to go from one review to another one, being able to see also video reviews of people that had read the book. Here as well, we added the possibility to translate every sound and virtual text into two different languages. By getting to see what normal people thought of the book around the world, you can have a more reliable idea of how good it is instead of reading just the authors' reviews that are on the back which typically make every book seem like a must-buy. In those books that inspired a the filming of a movie, a movie trailer could be added to see some high quality realistic images of actors instead of static 3D models.

In general, we believe that adding a virtual scene to augment the front or back cover of a book could be an effective technique to advertise the book better and to attract more and more people to buy it. Along with the evolution of technology, visual stimuli started to be used more and more in the last decade to advertise something or tempt people. This has made us more used to passively see things instead of actively read things. As a consequence TV series seem to attract more people compared to books, but what if you could get a visual feedback from books too as in this project? Having virtual scenes on the front and back cover or on some of the pages along the book that can be watched could turn reading into a more interactive and exciting experience for those who don't like reading because they find it boring.

To further improve the effectiveness of the AR World on the user, the models could be human-size instead of small 3D models on the cover, to feed the feeling of immersion in the scene. The shopper could feel as part of the story itself being also able to interact with the models, animate them, hear them talk or watch them interact. Using new headsets like the HoloLens hand tracking could be added to make the interaction even more realistic. In our project, the user could start using his virtual wand and attack Voldemort or defend Harry. Using such glasses in a library could help the shopper find the book he's looking for just by typing the name and following the directions to find it on the right shelf.

## **Marco Beccarini & Aastha Saraf**

Kids would be much more attracted to reading if virtual scenes were provided and therefore this could be educational in many ways. School books could be augmented too turning studying into an interactive experience which could be much more fun and educational.

In conclusion, we both hope this technologies will start being common in the future libraries as they are effective into serving many educational aspects.