HoloLens as an AR Learning Tool

An innovative augmented learning experience

# Business Idea

We think that the current teaching methods can be modernized using novel technologies. Currently the most used learning tools are the blackboard and projector, with the topic presented in an auditory manner by the teacher. We want to improve the learning experience using the Microsoft HoloLens AR-environment. The Hololens comes with features that we believe are suitable for learning, the features are as follows:

* Augmented Reality (AR) – AR can be used as a visual learning tool by overlaying virtual objects in the real world. AR is suitable for solitary and collaborative learning, students can be “placed” in the same augmented reality and collaborate together to solve problems.
* Audio Output – The audio output can be used to explain concepts and guide the students while they are solving problems.
* Gaze recognition – Gaze recognition can be used to provide context aware information and interaction based on what objects the students are looking at.
* Gesture and Voice recognition – The students can manipulate the AR model through natural interactions.

We decided to use the HoloLens as it is the only tool available today that combines all of these features into one wearable device that also has the on-board processing power to utilise the features with little latency.

In school students learn theoretical concepts, but in many cases they cannot apply the knowledge they learn to practical situations. As a result they might fail to see why they should learn these concepts and perhaps even lose interest in the subject. We want to provide an augmented laboratory where students can apply concepts through fun and interactive experiments. We hope that this will spark their interest in science.

[Insert idea here]

We want to develop the first prototype as quick as possible and work directly with potential customers to ensure that their needs are met by the product. The product will be developed in an iterative manner where features are polished and added as required by the users.

To sell the product we want to demo it at a science centre as well as bringing it directly to potential customers. Potential customers can be private schools, public schools and science centres. We think that the novelty and the usefulness of the product will ensure sales.

# Origin of the business idea

The idea originated from HCI and Interaction Design topics taught during the bachelor and master degrees. Through these topics we learned the importance of the user experience and how to apply modern technologies to enhance it.

From Interaction Design we learned how simple changes such as putting a smile or frown on an object can alter how the user perceives the object. E.g. if the refrigerator is happy then no food is wasted, if it is sad food has to be thrown away.