

**Future Trends Report**  
**Based on Analysis of the Team's Chosen Community / Organisation in Mid-Term and Final Evaluation**

**Community / Organisation Studied: Online Learning Community**

**STEP 1. Identify Challenges**

Read the Future Scene carefully and generate ideas for challenges, concerns, and possible related problems. Choose the 5 most important challenges and write them in the space provided. Include applicable research with appropriate in-text citations.

**Challenge #1: Digitalisation Might Cause Distraction or Lack of Motivation**

Based on our research, in a survey that we conducted based on a report (Alexander et al., 2012), 70.4% of the respondents indicated “strongly agree” and “agree” for the first statement, “Learning is less effective because I get distracted easily by the internet”, thus, we concluded that learning online is less effective than learning face to face. (Observation)

Online lessons may not be effective even for non-academic enrichment lessons, such as ballet lessons, piano lessons. There are also various distractions from the surroundings (eg. technological distractions from social media) which can result in procrastination which makes learning more ineffective. Ineffective learning might cause undue stress and provide pressure for both the student and the teacher, both of which feel that they are underperforming. (Why)

According to the Inside Higher ED (2020), the survey they conducted showed that the use of technology in class, such as laptops or phones, for noneducational purposes was distracting to almost half of students, while others surveyed believe technology in the classroom is unavoidable. Some students also stated that They still feel like [technology] is still necessary when the classes are not engaging enough. Like, for example, being in a large lecture hall or listening to the professor is what they call ‘boring. Another teacher also said that “[Students] also felt if they were too overwhelmed by the information ... they would get off the topic and go browse or text somebody and take a mental break.” (Research)

According to the Faculty Focus (2019), the research they conducted showed that both students and teachers agree that cell phones ringing in class are distracting. Also, they found out that younger students in the study were more tolerant of cell phones than the older students. (Research)

According to the Study Internationally (2009), the study they conducted revealed that excessive use of digital devices leads to poor motivation, anxiety in students and loneliness. They also stated that students who are glued to their devices are being distracted from their studies, thus leading to the lack of motivation to study. (Research)

**Challenge #2: Lack of Technology Infrastructure**

Based on our research, we concluded that online learning causes difficulties to both the teacher and the student. Some problems commonly faced were unfamiliarity of the platforms needed to be used to have lessons, communication difficulties and the lack of advanced access to functions to make online learning more efficient and convenient. (Observation)

With the lack of technological infrastructure, the teacher would not be able to get access to specialised resources to facilitate an efficient and interactive learning environment. Furthermore, some teachers are more experienced in face to face teaching and they might not be able to cope with the quick change to hold classes online and thus might suffer. Some students also might have some difficulties attending and learning from lessons online as they are more used to face to face learning. Students might also learn slower as they cannot communicate with the teacher as well. Thus, I feel that the lack of technological infrastructure will affect online lessons. (Why)

According to the Straits Times (2021), a piano teacher said that it was stressful and difficult as it (teaching online) was

a new thing. There were problems like installing and logging into Zoom, and where the camera should face so I could see them playing during the lesson. She also said that some problems that she ran into were like students' voices sounding unclear, cut off or unclear and sometimes, the student's device runs out of battery but he/ she does not realise it and continues playing. (Research)

According to The Conversation (2018), teachers struggle to move to online teaching as there are various challenges such as lack of enough IT support, in which it will take a long time for the IT technicians to get teachers educated on how to use computers or help them solve bugs that have infected the computer. Some teachers also do not have technology at home. Some students and teachers do not have computers or have basic internet access. This creates a lot of challenges for teachers. (Research)

According to the Education Week (2020), they interviewed teachers who said that they have difficulty reaching out to the students in the online environment as most of them live in poverty and do not have a reliable internet connection at home. When they conducted a survey, 20% of the students said that they had problems with technology, lacking access to the internet, devices or families' issues with technology. (Research)

### **Challenge #3: Impact of online classes on students' mental health**

Based on a study conducted by Son (2020), they conducted interview surveys with students from a public university in the US to understand the impacts of the pandemic on their mental well being. 71% of the 195 students felt stressed and experienced anxiety. Depressive thoughts emerged in students, fearing about their family members and feeling worried. 91% had negative thoughts, 89% had difficulties in concentrating, 86% of the students' had affected sleep schedules. 82% had increased concerns on academic performance.

Especially with staring at the screen for long hours, students' mental well being will definitely be negatively affected. In a country with such high expectations and stress levels, students may not be able to cope. Due to this unexpected pandemic, students need to adapt to the pressures of online classes and still manage with the changes in their everyday life.

According to Mechili. (2020), they conducted a survey on how covid-19 restrictions affected the peoples' mental health. 51.6% experienced minimal depression among the 863 respondents. This study reported higher depression levels in the midst of the pandemic.

According to Khawar (2021), they collected data for the impacts of online classes on the students in Pakistan. 65% were unhappy with the format of online classes, while 41% of the students revealed that they faced severe psychological distress.

According to A.Govindasamy (2021), when India entered lockdown from 24/3/2020, some students have committed suicide to escape the mental torture. Children faced difficulties going online and meeting deadlines.

### **Challenge #4: Lack of personal touch and interaction with others or Lack of collaboration**

According to our research, online learning will lack personal touch and interaction with others, or the lack of collaboration amongst students and teachers as compared to face to face learning. (Observation)

With the lack of personal touch and interaction or the lack of collaboration, the overall learning experience will be affected tremendously. The lack of collaboration can become a severe factor as a temptation for students to not focus on the lesson as it allows the students to be undetected on the web. Face to face lessons allow the teacher to get a better understanding of what the students are currently doing, while interacting with the class to gain attention. Unlike online lessons where the teacher can no longer have control over the class. Thus, the lack of collaboration might lead to academics dropping. (Why)

According to Social Science Research Network (2021), a key factor to the lack of interaction was the reluctance of students to turn on their video cameras during synchronous virtual classes, implicating the lack of visual interaction in online classes. (Research)

According to Hasnan Baber (2021), social interaction has a positive significant impact on the effectiveness of online learning. However, this effect is reduced in the presence of social distance norms as people give more importance to continuous learning and to saving lives rather than socializing in the online environment. (Research)

According to Greg Russell (n.d.), when one contrasts lively, in-person class dialogues with computer-mediated discussions, asynchronous communication is lacking as convenient as it may be. Students are not to be expected to build camaraderie while staring at computer screens. (Research)

### **Challenge #5: Lack of Quality in Feedback**

According to our research, online learning will lack the quality feedback required for students to improve. The feedback will be inferior to that of face-to-face given feedback which is given on the spot. (Observation)

With the lack of quality feedback, the overall e-learning experience will be affected severely, as feedback is a key component of learning. Feedback is what keeps us improving, helping us to get better. Without it, we are unable to improve and we will just be wasting our time repeating and reinforcing our mistakes. Thus, the lack of quality feedback is a serious issue which affects the e-learning community heavily, and is bound to affect us as well. As times change, technology is slowly integrating into our everyday lives. Very soon, perhaps in 5 years, e-learning will become the norm. If we do not resolve this issue now, it will continue to impact us as well as future generations ahead. (Why)

According to Tunison and Noonan (2001), students found it difficult to convey complex ideas through online platforms and some ideas were “lost in the text”. This means that feedback given by teachers cannot be understood by students, and students are unable to correct themselves properly due to the inadequate feedback provided. This might affect the overall quality of online learning. (Research)

According to a survey conducted by Martínez-Argüelles et al. (2010), 9% of the respondents indicated that their online learning experience was negatively affected by feedback that was not personalised. This is most likely due to the fact that teachers have not completely adjusted to online learning and are still using traditional teaching methods. Without the quality of feedback, students are unable to learn properly. (Research)

According to Walker and Kelly (2007), 304 undergraduate and graduate students shared that there was a lack of quality and asynchronous feedback from their instructors during their online learning experience. (Research)

## STEP 2. Craft the Underlying Problem

Using the challenges listed in Step 1, identify a problem of major importance to the chosen community / organization in the future. Write your Underlying Problem making sure your question clearly explains the action that will be taken and the desired results/goal of that action.

Incorporating Challenge(s) #1, #5

### **Underlying Problem:**

Given that the Covid-19 pandemic have brought significant disruptions to education and forced teachers and students to embrace technology-enhanced learning (Conditional Phrase), how might we improve the online learning experience (KVP) so that online learning will be more sustainable (Purpose) in the post-pandemic world 5 years from now (FSP)?

### STEP 3. Produce Solution Ideas

Generate solution ideas to the Underlying Problem in Step 2. Choose the 5 most effective solutions and write the elaborated ideas in the space provided. Include applicable research with appropriate in-text citations.

#### **Solution #1: Extended Reality and Artificial Intelligence**

We, Megasoft, a technology company, will release our new software, MixedLearning, in the year 2026. Our software, MixedLearning, aims to use Extended Reality (XR), which includes but is not limited to, Mixed Reality (MR) and Augmented Reality (AR), together with Artificial Intelligence (AI) to improve the online learning experience of people around the world. It will come with a set of virtual glasses known as MegaLens. MegaLens will work together with MixedLearning to project holographic images to create a MR/AR environment. MR revolves around the idea of merging real and virtual worlds together to form a new environment, whereas AR overlays the virtual world onto our physical world. We strongly believe that MixedLearning will be able to make full use of XR and AI to improve the e-learning experiences of students, because MixedLearning has the ability to bring people from all over the world closer than ever before. MixedLearning allows people to design their own virtual avatar to be used in virtual meetings through MixedLearning, known as MixedMeet. MixedMeet is an online meeting platform which is built into MixedLearning, similar to that of video conferencing applications, except that it incorporates MR, allowing participants to join as avatars. This allows people to feel that they are actually in the same space together, and adds a little bit of personal touch to online discussions. The participants can also interact with virtual projections, to aid them in their learning or discussions. For example, if a math teacher were to meet up with her students to teach the concept of volume, using a video conferencing platform, the math teacher would need online simulations to enable the students to understand the concept. Not only is this not as effective as using physical materials, it is also time consuming for the teacher to hunt for the appropriate resources for the lesson. With MixedLearning, teachers can design their own interactive objects tailored to their lesson needs, which would be more effective from crafting a lesson around the online resources available. MixedLearning also makes use of AI to provide relevant information for more efficient learning. Therefore, MixedLearning, paired together with MegaLens, will bring about wonderful possibilities for learning, bringing online learning to a whole new level.

According to Qian and Walker (2021), Microsoft has released a preview version of their application, Microsoft Mesh, which works together with HoloLens, a head-mounted display running the Windows Mixed Reality platform. Together, they are able to project holographic images for users to interact with. This allows people to collaborate together virtually and host virtual meet-ups. This technology has also enabled people like surgeons in training to learn from surgeons without having to be in the operating theatre, but allowing them to get a detailed projection of the operation as if they were there. (Research)

According to Google (n.d.), their product Google Glass, a pair of AR-equipped smart glasses, has benefitted some companies greatly. For example, Google Glass has increased the operational efficiency of DHL by 15% on average. DHL has a supply chain process known as order picking where the employees have to scan the items on the racks before transferring them into totes or bins on carts. With Google Glass, the employees can receive the instructions immediately in their line of sight and can free their hands of paper instructions. (Research)

According to IndustryArc's Virtual Reality Forecast (n.d.), the AR and VR market was estimated to grow to \$140.1 billion by 2026, growing at a Compound Annual Growth Rate of 38.4% from 2021 to 2026. What this means is that the AR and VR market is expanding at a rapid rate and will soon become a norm in our lives. Therefore, it will be possible for some students to start the use of AR in their daily lessons by the year 2025. (Research)

#### **Solution #2: Gamification**

We, Electronic Combined Project, or also known as ECP, a technology company, will release our new educational game, OwlGoesHoot, by the year 2026. OwlGoesHoot aims to create fun in classrooms and motivate students to study by using an application where you can create your own quizzes and challenge your classmates or friends in a fast-paced game. This game is also available on browsers for everyone to access easily. Our software includes unique features such as holograms for the choice selection questions. It would also be voice enabled to help those who cannot hear still do the activities. There is also an Artificial Intelligence (AI) feedback bot, which provides students with

feedback on why they got the question wrong. This ensures that students are able to learn while having fun, while retaining important elements of traditional lessons such as feedback. If possible, OwlGoesHoot may collaborate with other learning platforms such as google classroom to share the survey results to the students in the class. It reduces students' anxiety as it is a fun and new change to what they usually do in class — listening to the teachers teach with almost no hands-on activities. OwlGoesHoot leads to the increase in student participation, even for shy students as each of them will get a chance at answering questions. This also improves concentration, motivation and understanding of the concept taught, due to the new technology being utilised to entice the students and to gain their attention. Hopefully in time to come, OwlGoesHoot can replace exams, providing a fun and stress-free environment, whilst retaining the purpose of exams — to check for students' understanding. In conclusion, OwlGoesHoot is an easy, fun and free to play game that helps to enhance students' motivation to study in the classroom, and has great potential in the education field.

According to Beate (2018), MC Online has created a game, Brainy Arkies, to help children solve questions related to math as they embark on a journey filled with adventures and quests with in-app characters known as Arkies. Brainy Arkies, developed by MC Online, are so much fun that kids will be learning while they are immersed in the experience. As they help the Arkies build the 3D world they will be retaining important mathematical concepts and deepening their understanding of numbers with ease. Parents can get involved too and work together with their child to conquer obstacles in the form of quizzes to progress further on their quest. Every kid loves getting stickers or badges, and this app rewards getting to the next level by unlocking new stages as your child progresses. (Research)

According to Kahoot's official website (2020), Kahoot has had a positive effect on learning performance, classroom dynamics, attitudes, and anxiety, improving learning outcomes by boosting engagement, participation, and motivation through competitive, game-based learning experiences. In a survey conducted by the company, 70% showed that Owlgoeshoot significantly raised students' final grades creased attendance, student participation, engagement, motivation, as well as interaction between students and teachers and students and peers. (Research)

According to ISTE(2015), they feel that on the education front, holographic technology will add vibrancy to the learning process and just might entice students to look further into topics they are passionate about. Some of the potential educational benefits of holographic technology they listed were Remote collaboration where students can have face-to-face interaction with other students, teachers and even experts all around the world. Holographic tech can help students to hold meetings physically while being at home. They also stated that holographication can assist students while they do 3D designing. Students can then complete their designs in 3 dimensional and print it out with a 3D printer.

### **Solution #3: Learning Bot**

We, BotLab, a digital bot company, will develop a chatbot known as LearnBot, by the year 2026. One issue in current online learning environments is the fact that learners are unable to get real-time feedback from their instructors. In a traditional classroom setting, the teachers are able to respond to the students during lessons and answer their queries on the spot. However, many online learning environments make use of learning packages. This creates an asynchronous learning environment where students are learning at different paces and at different timings. There is no standardisation of learning times and there is no time slot to clarify doubts. Thus, learners might have to text their instructors and wait for their replies before being able to carry on with their assignments, which is a waste of time. With LearnBot, students can get immediate feedback from the bot without having to wait. The bot will operate like an online chatbot, responding accordingly to the learner's queries. The bot analyses the question of the learner and will attempt to identify the problem using Artificial Intelligence (AI). Upon finding out the root problem, the bot will be able to answer the question using either pre-programmed answers by the instructor, information from a particular source or information from the internet. This allows the learner to get real-time feedback and ensures the most efficiency in learning, allowing online learning to be more productive and fruitful than it is now. The bot will be available on a website. If possible, we will integrate it together with Google Classroom, a popular platform used by many learning institutions and learning groups to post assignments. LearnBot will be a wonderful and powerful learning tool because it is low-cost, easy to use, and helpful.

According to GovTech (n.d.), they have programmed a virtual assistant chatbot known as "Ask Jamie", which can be found on many government websites. Ask Jamie utilises AI to look out for keywords or phrases to narrow down the

question scope so as to provide the most relevant information. If she is unable to do so, Ask Jamie is able to refer the query to the relevant people. Ask Jamie is an example of a successful chatbot powered by AI. The only difference between Ask Jamie and LearnBot is the fact that LearnBot also uses reliable sources from the internet, which can be developed in time to come, to answer questions, whereas Ask Jamie depends on a specific database to provide answers. LearnBot would be more suitable for online learning as many answers on the internet are able to answer the queries of students, except that they might also require the feedback of a teacher. Therefore, LearnBot is achievable in the next 5 years by combining different technologies. (Research)

According to Adiwardana and Luong (2020), Google's AI enabled chatbot, Meena, is 79% sensible and specific as compared to humans which are 84%. This means that it is possible for AI chatbots to give sensible and specific answers. Therefore, it is possible for LearnBot to provide relevant and specific answers for the learners to answer their queries. Thus, the feedback LearnBot gives will be effective for learning. (Research)

According to Dahiya (2017), chatbots have the potential to be used in the field of education, as a learning tool. They are able to engage in smart conversations and improve and learn at an "unprecedented rate" with each new development. Therefore, they will be better equipped with new skill sets to answer questions of students by the year 2026 as the technology of AI advances.

#### **Solution #4: Learning Accessories**

We, ProSearch, a company designing interactive textbooks for iPad, will develop interactive textbooks across all platforms and devices by 2026. One issue in the current world is that students lack interaction with others, and these interactive textbooks will solve this problem, as now students can connect with one another and work together to study using these textbooks. Students can use the functions inside these interactive textbooks, like changing the fonts and adding more notes to these textbooks to boost their learning experience and learning will be much more enjoyable, convenient and compatible for them. These textbooks can be shared with teachers, so if there are any queries to the content in the textbooks, the teachers will be of much support for these students. There will also be a function where the interactive textbook app will provide structured questions at the end of each chapter for the students to revise. There will be model answers provided from teachers. Also, another benefit is that this application will be 100% free to use for all students around the world. This goal to have this application available in ios and android will be completed by 2026. This application will change learning as a whole and increase students' performance greatly and be an amazing application.

According to Hoch, S., Reinhold, F., Werner, B. *et al.* Design and research potential of interactive textbooks: the case of fractions (2018), they conducted a survey to find out if interactive textbooks affect students' effectiveness of time on task to task success on fractions exercise in a textbook. Over 48,000 responses were included, and 75.61% probability of a correct response to the exercise shown with the interactive textbook. For discussion purposes after the survey, it was recorded that shorter response times were associated with more correct responses.

According to Edgcomb, A. D., & Vahid, F., & Lysecky, R., & Knoesen, A., & Amirtharajah, R., & Dorf, M. L. (2015, June), it was said that exam scores improved by 13.6% after the use of interactive textbooks. 87% completed their assignments and were on task.

According to Edgcomb, A. D., & Vahid, F. (2014, June), the average improvement score in quizzes after using interactive textbooks rose by 16%. Participants also chose to spend more time with the interactive lessons than static ones.

#### **Solution #5: Virtual Learning Assistant**

We, Samsing, a technology company specialising in virtual assistants, will develop a virtual learning assistant known as Sum by 2026. One issue in the current world is that the students might have trouble coping with the stress and anxiety, which would drastically degrade the student's performances. Our virtual assistant, Sum, aims to ease the learning environment by giving guidance to them on the assignments if the students are in doubt of the answer. This is to help the learning for the students easier and solve the problem. Students can use the functions of the virtual learning assistant, like searching up definitions of difficult words and receiving hints for the method of the problems to guide



them throughout their learning experience and learning will be much simpler and convenient for them. The virtual assistant runs on the codes and instructions set up specifically by the teachers, to make the assistant as efficient as possible. Modal answers and the methods would be provided by the teachers, divided into different sections that will be separately given to the students as hints so that students will not just freeload off of the materials placed for them. A benefit is that the platform will be 100% for the teacher's use all around the world. The goal to have this application in all brands of devices will be completed by 2026. This application will change learning as a whole and reduce stress for the students in order for their performances to improve.

According to Kevin & Bill (2011), the case makes extensive use of animated pedagogical agents to assess and grade student work, to provide feedback, and to guide students through the problem-solving process. These pedagogical agents are animated characters that can be used to enhance communication with students because they are specifically designed to interact with users in computer-based environments.

According to Luca & Paolo (2019), personalized Virtual Teaching Assistant (PVTa) for "assisted learning" consists in helping students with a series of services such as personalization of content, recommendation of learning material and student engagement, as well as other services. Also, we introduce an initial version of the PVTa, consisting in a chatbot - built leveraging the IBM's Watson Assistant - which is capable of answering students' questions about the content, the structure and the organization of the RecSys course, an introductory course on recommender systems.

According to Pogorskiy et al. (2020), a virtual learning assistant has the potential to be utilised in two additional ways: first, as an assessment tool regarding the motivational, cognitive, affective and metacognitive components of self-regulated learning, and, second, as an intervention tool which could help learners to develop their self-regulatory skills, and to compensate for any issues with self-regulation.

#### **STEP 4a. Select Criteria**

Generate criteria to determine which solution idea does the best job of solving your Underlying Problem and/or addressing the Future Scene situation. Select the 5 most important criteria for measuring solution ideas and write them in the spaces provided.

##### **Criterion #1**

Which solution would be the **cheapest (superlative adjective)** for the online learners (who) so that it can be obtained at price for everyone to use (why)?

##### **Criterion #2**

Which solution would be the **most interesting (superlative adjective)** for the online learners (who) so that the online learning experience can be more engaging (why)?

##### **Criterion #3**

Which solution would have the **most appeal (superlative adjective)** to the online learners (who) so that the solution will be implemented easily (why)?

##### **Criterion #4**

Which solution would be the **most convenient (superlative adjective)** for the online learners (who) so that the solution can be implemented smoothly by anyone (why)?

##### **Criterion #5**



Which solution would have the **greatest improvement to the current online learning environments** (superlative adjective) **for the online learners** (who) so that the online learners would benefit the greatest from the solution (why)?

**STEP 4b. Apply Criteria**

List the solution ideas from Step 3 on the grid. Use each criterion to rank the solutions on a scale from 1 (poorest) to 5 (best). The weighting for one important criterion may be doubled if necessary.

Step 3 Sol'n #	Solution Idea	Criteria					Total
		1	2	3	4	5	
#1	Extended Reality and Artificial Intelligence	1	5	5	1	5	17
#2	Gamification	4	4	4	3	3	18
#3	Learning Bot	5	1	1	5	1	13
#4	Learning Accessories	2	2	3	2	4	13
#5	Virtual Learning Assistant	3	3	2	4	2	14

## STEP 5. Develop an Action Plan and Evaluate its Feasibility

Develop your top-scoring solution idea into an Action Plan. Thoroughly explain how the Underlying Problem is solved, how the plan will be implemented, and how the community / organisation will be affected. Explain how this Action Plan is feasible with secondary research consulted, preferably also with primary research (feedback from chosen community / organization)

### Action Plan derived from Solution #2:

We, Electronic Combined Project, or also known as ECP, a technology company, will release our new educational game, OwlGoesHoot, by the year 2026. OwlGoesHoot aims to create fun in classrooms and motivate students to study by using an application where you can create your own quizzes and challenge your classmates or friends in a fast-paced game. This game is also available on browsers for everyone to access easily. If possible, this browser website will collaborate with different learning platforms such as google classroom to make it easier to share the results of the quizzes with both students and the teacher. So how exactly are we going to make this website that gamifies learning to make it more fun and motivates students to further enjoy studying? Firstly, we would hold a survey to ask the children that already have tried the beta edition. With these results, we can further improve some features of the game to make the game more effective for the learning of the different types of students in class. We would also add features such as pictures or relaxing study music to allow the kids to be enticed with these special effects and be more motivated to study. **Given that the Covid-19 pandemic have brought significant disruptions to education and forced teachers and students to embrace technology-enhanced learning (Conditional Phrase), how might we improve the online learning experience (KVP) so that online learning will be more sustainable (Purpose) in the post-pandemic world 5 years from now (FSP)?**

The Covid-19 pandemic has brought significant disruptions to education and forced teachers and students to embrace technology-enhanced learning (Conditional Phrase), OwlGoesHoot will improve the online learning experience as in the new era, classes would start to digitalise, students would be more accustomed to using digital devices to study. Thus, since OwlGoesHoot is an online website, it would entice students to use this platform to study. OwlGoesHoot will improve online learning experience by allowing students to learn/ study in a more fun and care-free way. Since students are learning in a fun, game-like environment, they would be more likely to remember what they learnt as their learning experience would be an enjoyable one.

### Implementation Schedule

Firstly, we plan to create this educational game as a draft by 2024. The draft will include the basic functions stated in our instructions document. We will let a few people try out the game and give opinions on how it should be improved as a game. It will be known as OwlGoesHoot 1.0

Next, we plan to establish with the feedback collated, and adding updates to the game for better learning experiences. The game will be called OwlGoesHoot Beta. We will then release a second draft to more people. They will rate the finalized game upon 5 stars and give more feedback.

Finally, the finalized version will be released to app stores in both ios and android. The game will be up and running in the market by 2026. The game will be known as OwlGoesHoot. Continuous updates will be released as more people use this app.

Some of the potential challenges that we might face while implementing the solution would include the likelihood of people using the application as well as the cost of the application. The application utilises relatively new technology such as holograms and artificial intelligence (AI). Thus, the cost price would be rather high. But in time to come, when such technology has become more common and more available to many people, the market would be larger and there would be more suppliers of such technology, resulting in AI solutions becoming more affordable. For holograms, the technology is relatively new, but there are companies such as Euclidean Holographics developing the hologram technology. Large companies like Microsoft and Google are also developing their own holographic glasses. Therefore, this technology will probably be widely available by the year 2026. In the event that it is not, we will try to partner up with Google, to integrate our application with Google Classroom, so that it would be included in the package which many purchase. This way, the technology will be available in all schools for the students to use and enjoy.

With OwlGoesHoot, students will be more engaged during online lessons and are able to learn more effectively than before, due to the higher attention rate, higher participation rate, resulting in a higher retention rate, and benefitting from the feedback given by the built-in AI bot. This resolves the problem of lack of feedback during online learning. It also provides students with active interaction and more effective learning. Thus, the online learning experience will become more engaging than before, and would be more effective as a whole.

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Cite the resources you consulted using the APA format.

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