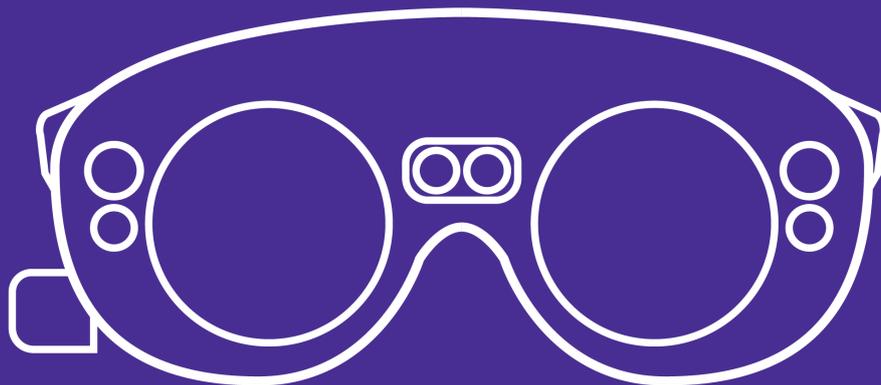


# The future of AR wearables

Project Initiation document



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Company: Greenhouse  
Company tutor: Bas Ploeg  
Project period: 04/02/19 - 05/07/19  
Version: 3.0

PROJECT PLAN

FONTYS UNIVERSITY OF APPLIED SCIENCES

HBO-ICT: Media Design

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<b>Project plan:</b>	
Working Title:	<b>Future of AR wearables</b>
Version:	<b>3.0</b>
Date:	<b>14/03/19</b>

## Version history

Version	Date	Changes
1.0	20/02/2019	First version
2.0	04/03/2019	Changed the subquestions to be a better support to the main question.  Added customer segment to give testing prototype context.  Processed feedback from Bas and Frens.
3.0	14/03/2019	Processed feedback from Frens.  Updated layout.

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## 1. The Company

The company I will be doing my internship at is Greenhouse Group. Greenhouse Group is a brand & performance agency based in Eindhoven. Greenhouse Group is part of Group M, one of the biggest Media companies in the world, serving a third of all global advertisements. Competitors of Greenhouse Group are other media agencies serving Dutch markets.

The Labs department of Greenhouse Group exists to test new technology that has not yet been ready for the consumer market. In Labs, students explore these technologies and look for opportunities. By testing out these technologies in multidisiplinary teams the company creates an understanding of the potential impact of these innovations. By doing so, Greenhouse tries to stay ahead of the competition.

## 2. The Assignment

### Assignment description

People use technology on a day-to-day basis, spending nearly half of their day interacting with media. They take 90% of (media)<sup>1</sup> information from screens, but the interaction with screens is limited.<sup>2</sup> With the rise of AR wearables we're finding new ways of experiencing information, because most senses can be freely used to control the digital environment ending up being more intuitive and engaging if done correctly.

The last couple of years, AR has become a widely used technology.<sup>3</sup> Many smartphones have the right technology to run AR-applications. The next step in the use of AR, is to make it more intuitive. AR-wearables offer more intuitivity in use, but are not yet able to reach the consumer.

The goal of the assignment is to explore the capabilities of the Magic Leap, one of many AR-wearables, creating an understanding of how an AR experience for a wearable should be designed. Greenhouse Group seeks to gain a lot of knowledge about user experience in order to be prepared when the AR-wearables starts to be accesible for the general public. There is an existing gap in knowledge on how such an experience should be made.

### Goals of the assignment

The main goal of the assingment is to design and test a prototype for an AR-wearable to give Greenhouse Group a better understanding of user experience guidelines needed for optimal usability of AR wearable applications.

During the assignment, another goal is to explore and showcase the capabilities of an AR-wearable. The first part of the assignment is to understand the situation and complication of the use of the AR-wearable, in this case the Magic Leap. The next part is come up with various concept where an AR wearable has added value for a specific customer segment. Because the stakeholder is Greenhouse Group itself, and they want to better understand the AR wearable application, they have been chosen as the customer segment (people who work in office). They can project themselves easier into the customer journey as the office is a place they are all familiar with. Furtermore, the environment for testing is optimal inside, making testing easier. The last part of the concepting phase is to interview this customer segment, validate their needs and build the value proposition.

With this knowledge a prototype will be made to showcase the concept. This prototype will go through multiple iterations, where each iteration will have user tests.

I will be focusing at making the UI and testing how this UI can best be controlled (eyes, hands, voice). With all information gathered, I will set up guidelines for using/developing/designing an AR-wearable application.

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1 <https://www.thinkwithgoogle.com/advertising-channels/mobile-marketing/the-new-multi-screen-world-study/>

2 <https://www.nielsen.com/us/en/insights/news/2018/time-flies-us-adults-now-spend-nearly-half-a-day-interacting-with-media.html>

3 <https://www.statista.com/statistics/591181/global-augmented-virtual-reality-market-size/>



## Analysis of the assignment

The standard use of AR at the moment is through the use of mobile devices (smartphone, tablets). An AR wearable could lead to new ways of interaction in a digital environment. Because the AR wearables are in early state of production, not much is known about the possibilities.

Greenhouse wants to obtain knowledge about this new technology because expectations are that AR-wearables are becoming more mainstream in the near future. They want to know what guidelines are needed for making applications that run on these devices.

In conclusion, the assignment is about setting guidelines for an AR-wearable experience. Therefor the main research question is:

How to design a user friendly experience when using AR wearables?

- How are good design guidelines made on screens/real life objects, and how to convey these to AR for wearables?
  - o Literature research standard guidelines.
  - o Interviews with designers.
- How is AR used at the moment and what might be future uses?
  - o Literature research.
- What is the added value of an AR wearable compared to other, more common ways of using AR.
  - o User tests
  - o Literature research
- What is the most intuitive way of controlling a UI with an AR-wearable?
  - o Prototyping
  - o User tests (A/B testing) with one group of testers that will be testing every iteration and one new group per iteration (novelty effect)
- What are points of caution for the user, and bystanders, when using an AR wearable?
  - o User tests
  - o Interviews before and after tests

## Activities (scope)

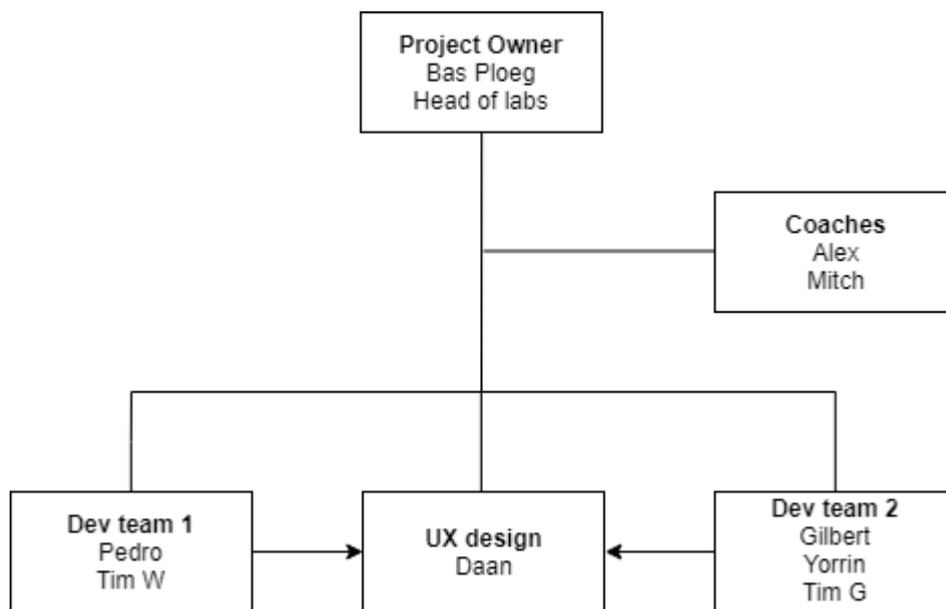
My activities for Greenhouse group will be to come up with a concept to showcase the use of an AR-wearable. This includes defining customer segments and a value proposition to give context to the assignment. By user testing this prototype I will define guidelines for the optimal user experience when using a AR-wearable. This will conclude in a comprehensive document which can help future projects in Greenhouse Group.

## Assignment demands

MoSCoW			
Must have	Should have	Could have	Won't have
Prototype in Magic Leap showing UI capabilities	Multiple levels within prototype, showing a whole user story	Video of use prototype for quick showcase.	Mobile AR version of prototype.
Document with guidelines for AR-wearable User Experience			
Product document			
Transfer document			

### 3. Approach

I will be working within a team of 6. In this team are two game developers, three 3d-designers, and one UX designer. I will have the role of the latter. After the concepting phase when clear concepts have been made, the teams will be split up in two, each working on a different concept. My task is to oversee both teams and test the applications and make the User Experience as intuitive as possible. I will be looking at how the product could be of use for a customer, and to make their experience as friendly as possible.

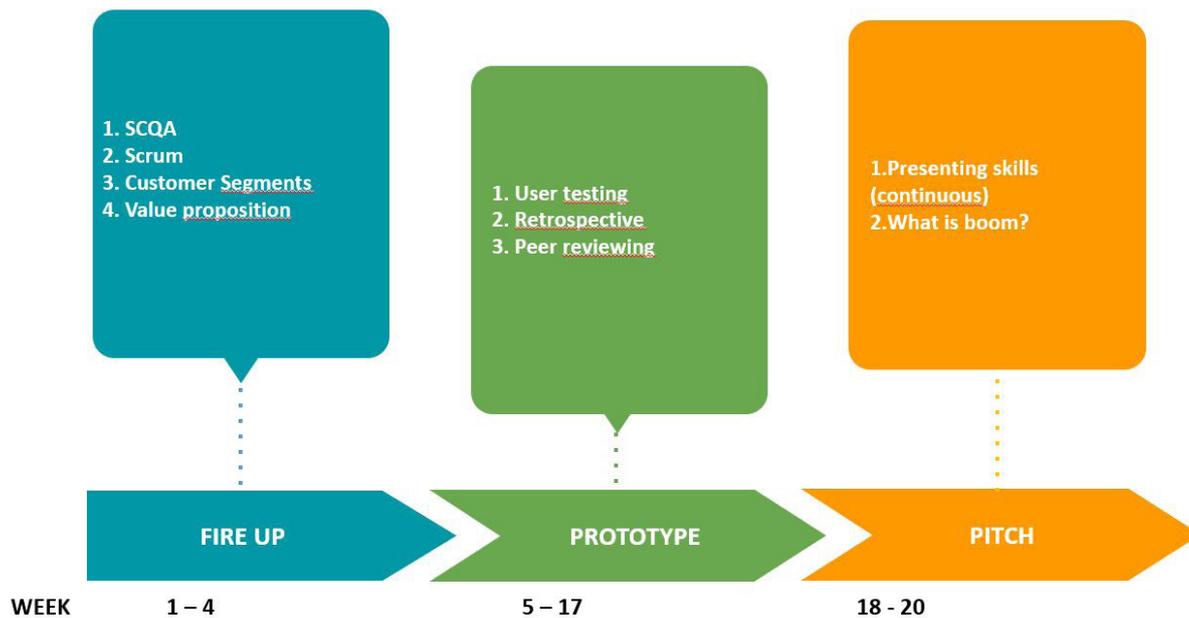


The team will be working agile by using Scrum. Weekly meetings are planned to update coaches/stakeholders. A daily standup is done at 09.45 where each groupmember updates the others on work done, work to do that day, and possible assistance needed.

### Research Methods

For research, I use the five methods of the Development Oriented Tringulation framework. (library, field, lab, workshop, and showroom). For a complete research, all methods should be used.

## Planning



In this internship, I am going to follow the model above. This model is used by Labs to have a successful research. The first weeks are all about researching the situation, complication and how to solve this. Customer segments are defined, and a value proposition will be made.

The second part is about building the prototype and user test it. With all knowledge gained, making the portfolio should start.

In the end, the product and research should be transferred to Greenhouse, so it can be used in future projects.