Research document

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# Introduction

The purpose of this document is to conduct research to address the problem within the project, specifically, finding a solution for the video call system. To tackle this problem, I will formulate a primary research question and several related sub-questions. These sub-questions can be explored through interviews, internet research, prototyping, and other methods.

The challenge in this project revolves around developing a video call system within the PRAS system. This document will provide a detailed account of the steps taken to address each sub-question and the overall problem-solving process.

# Research questions

**Main question:**

**What possible solutions are there, to create a video call facility to implement in the PRAS system?**

**Sub-questions:**

The strategy and methodology for the FHICT can be found at this link: <https://ictresearchmethods.nl/Methods> and <https://cmdmethods.nl/> .

1. **How should the video call facility work in the PRAS system?**

* **Strategy: Field**
* **Methods: Document analysis, interview**

1. **What video call systems are there?**

* **Strategy: Library, Workshop**
* **Methods: Available product analysis, Literature study, Brainstorm**

1. **Which video call system can be implemented based on the requirements?**

* **Strategy: Workshop, Stepping Stones**
* **Methods: IT architecture sketching, Prototyping, Requirements list**

1. **Which video call system benefits a better user experience?**

* **Strategy: Lab, Stepping Stones**
* **Methods: Usability test, Unit test, Persona**

# Sub-questions result

## How should the video call facility work in the PRAS system?

Currently the video call occurs on a tablet using WhatsApp. Normally the SVb employees would check the daily agenda to determine if there are any appointments scheduled. If there are, they have to look at what type of appointment it is and with whom. They have to first double click on the appointment box to see all the information of the appointment. See figure 2. Due to sensitive information, I have made a wireframe and dummy data of the user interface.



Figure 1: Overview of the agenda.

A screenshot of a video call

Description automatically generated

Figure 2: Information of the appointment.

After looking at the information the SVb employee would use the company tablet to contact the retirees on WhatsApp video call. They would need to have the retiree’s information saved in order to make a WhatsApp video call.

SVb now wants to eliminate the process of using a tablet to make video calls. They want video calls to be made through the PRAS application, which serves as the central hub for managing all pension client information. There are two concepts/ ideas to address this problem. The concepts can be found in the **Concept Document**. For the full, detailed process, please refer to the “**Wireframe**” document. Here is a summarized process for both ideas.

### First Idea

The first idea is to add a “Start Video Call” button to the appointment box. Clicking this button will initiate a video call with the retiree through WhatsApp. A video call interface will appear when the button is clicked, allowing the SVb employee to contact the retiree. After the video call, the SVb employee can end the call using the video call interface, and it will log the start and end times of the call, as well as the date. Figures 3 to 7 depict the process of initiating and ending the video call with the retiree.



Figure 3: “Start Video Call” button for the first idea.

A screen shot of a video call

Description automatically generated

Figure 4: Connecting to retiree's phone.



Figure 5: Connected to the retiree.



Figure 6: In a video call with the retiree.

A screenshot of a computer

Description automatically generated

Figure 7: End video call.

### Second Idea

The second idea, in the initial part, is the same as the first idea: adding a “Start Video Call” button to the appointment box. After clicking the “Start Video Call” button, the video call interface will display and place the SVb employee into a video call meeting. The SVb employee has to admit the retiree into the call when they join the meeting. The retiree can join the call through a link sent by email, SMS, or WhatsApp. After the meeting is finished, the SVb employee can end the call, and the system will log the start and end. times of the call. Figures 8 to 12 depict how the video call process should work.



Figure 8: "Start Video Call" button for the second idea.

A screenshot of a video call

Description automatically generated

Figure 9: Joining the meeting.

A person smiling with a video call

Description automatically generated

Figure 10: SVb employee joined the meeting.

A person with a ponytail

Description automatically generated with medium confidence

Figure 11: Retiree joined the meeting.

A screenshot of a computer

Description automatically generated

Figure 12: End video call meeting.

## Which video call systems are there?

There are all sorts of video call systems, it depends on what type of video call system you want. There are free versions of the video call systems and there are paid versions of it. I won’t go through all of them, but I will mention some of them based on what I saw on the internet, or have tested out, or have used them before.

**The paid version of a video call system is:**

* **Vonage meeting API**

**The free version of a video call system is:**

* **Zoom (tested)**
* You can download the app, or you can use the browser-based video call on the desktop.
* You have to create an account to host the meeting.
* You have to download the zoom on your mobile phone to join the call.
* Can join the call through invite link.
* Host has to admit the guest to join.
* A bit easy to use, once you get to know what to do as a host and a guess.
* Won’t let you join an old link.
* **WhatsApp for regular users/ personal use (tested)**
* You can use the web version or desktop app.
* You need to download the app on mobile.
* You need to have a phone number to use this.
* You need to scan the QR-code on the web version and desktop app from the mobile app to use the web version or desktop app.
* The web version stays active as long as you keep using the mobile app version. After 14 days of inactivity on the mobile app, it will log the user out of the web version. (**Still testing**)
* You have to relog on the web and desktop app with your mobile app.
* WhatsApp account can be connected at max to 5 devices.
* Everyone has it.
* The app version on the desktop is still active for 17 days. (**Still testing how long the session is**)
* You can’t make a video call on the web version.
* You can make a video call on the desktop app.
* \***Need to test** **video call on the desktop app**\*
* **WhatsApp Business (tested)**
* This is kind of the same as the regular WhatsApp but for small business.
* You need to have a phone number to use this.
* Supposedly you can use the same web and desktop app as the regular WhatsApp. (**Need to test**)
* You can only log to 4 devices.
* You can add opening hours on your profile.
* You can add company website on your profile.
* You can add company address on your profile.
* You can add company email on your profile.
* You can add custom message describing your business.
* **WhatsApp API (Based on research)**
* This is for medium to larger companies.
* You need to have a phone number.
* You have to get approved in Facebook Marketplace to have access to WhatsApp API
* You can add multiple devices.
* **Skype (tested)**
* You can use skype without creating an account.
* Invite to call with link.
* You need to download the app on mobile to use skype.
* Easy to use and understandable.
* Can track how long the call is.
* On desktop you can use the browser or app.
* Can join through an old invite link (3 days old).
* **Microsoft teams**
* You have to have an account to receive the video call and to make the video call.
* The video call can be scheduled or directly called.
* Invite to video call meeting with link.
* The scheduler has to admit people to the video call.
* More for organizing company and educational meetings.
* You have to download the app on mobile to use.
* On desktop you can use the browser or the app.
* **Jitsi Meet**
* Has to have an account to make the video call.
* Need to name the room meeting.
* Room name needs to be unique because anyone can join if the name is easily found.
* Track how long the call is going.
* Can join the call with or without inputting a name.
* Can invite through link.
* On desktop you can use the browser.
* Mobile can join the call via browser or app.
* Guest can’t start the video call it has to be the one with an account.
* Can rejoin the video call through an old invite link (3 days old).
* Api free to use, depending on active monthly users.
* **Talky**
* You don’t have to have an account to make the video call.
* You need to choose a unique name for the video call meeting.
* You can lock the room, so strangers can’t join the room without the code.
* Phone can join through link.
* Interface of the browser version is a bit wonky, everything on the interface is compact, on each component.
* Everyone can kick each other from the video call.
* Max 6 people in call.
* Can join old invite link.
* **\*NEED TO TEST ON THE IPHONE\***
* **JumpChat**
* You don’t have to create an account.
* It auto generates a room code for you.
* It is browser based on desktop.
* You can use the browser on the phone to video call, but it won’t work on iPhone.
* You can reuse the old invite link (3 days).
* Anyone that knows the room code, can join.
* The video on the phone is wonky, sometimes the video of the other person in the call is too big to fit the screen or it fit just right at the top. If you rotate the phone horizontally, it will be just right.
* All communications are encrypted in the video call.
* No limits to the number of people, except for bandwidth.
* **WebRoom**
* You have to enter a name and an email address to start the video call.
* The email address can be a fake address.
* The email is just to log the session.
* You can keep trying the free session with the same email address.
* The free session is only 20 minutes long.
* The free session can hold up to 12 people in the call.
* You have to do a lot of checks before you join the call. Like mic check etc.
* Can’t use the old invite links.
* Tracks how many minutes you have left before the session ends.
* The guest also has to provide a name and an email address to join the call.
* The guest can’t have the same email address as the invitees.
* **Google meet**
* You need to make an account before starting a meeting.
* Can join through a link invite.
* Can join with the code provided by the host of the meeting.
* The code is created when the host start the meeting.
* The guess needs to provide a name before entering the meeting.
* You have to download the app on the phone.
* Android user have Google meet pre-installed.
* Before joining the host must admit the guess first, when joining the meeting.
* When the guess leaves the call, they would have 60 seconds to rejoin the call on the same screen.

**WhatsApp API solution provider:**

These are companies that offers WhatsApp API solution, they handle the technical aspect of WhatsApp API with a pricing of course.

## Which video call system can be implemented based on the requirements?

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## Which video call system benefits a better user experience?

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# Conclusion to the main questions

# References

**There are no sources in the current document.**