Age Protect

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Abstract

AgeProtect enables service providers to perform age verification people using their services so they can offer age-restricted content and services consistent with prevailing laws and regulations. It supports people of all ages and protects minors by delegating access control decisions to their guardian. AppProtect assumes that people have software agents running on their devices, and that service providers integrate third-party age verification services. AgeProtect is an open technical specification that governs the interactions between agents, service providers, and age verification services. This paper describes the AgeProtect specification as well as an initial implementation.

1 Introduction

People use apps and websites offered by service providers that adhere to many laws and regulations. Some of these laws and regulations (e.g. COPPA[1]) govern what services the person can access based on their age. These are called *age-restricted* services. There is currently no internet-wide, standardized way for service providers to restrict people's access to age-restricted services. Some service providers have argued that it is infeasible technically to do so, or that doing so would be cost prohibitive [need references]. [...talk about how teenagers have learned to fib about their age to gain access...[need references]]. AgeProtect provides a standardized solution based on recent technology advances such as Verifiable Credentials(VC)[2] and Identity Agents[3].

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[1]ftc.gov/legal-library/browse/rules/childrens-online-privacy-protection-rule-coppa

[2]w3.org/TR/vc-data-model/

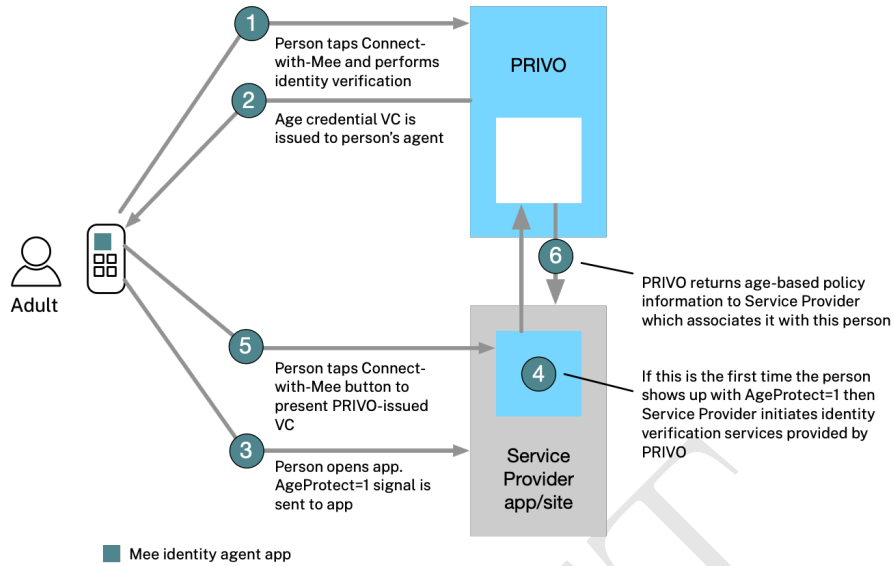[3]github.com/MeeFoundation/papers/blob/main/identity_agent/identity_agents.pdf

Figure 1: Adult Internet User Flow

2 Overview of flows for Adults and Minors

AgeProtect can be used by people who are minors or adults, although the flows differ between them. In the next two subsections we provide a high level overview of the adult and minor flows, respectively.

2.1 Adult flow

The Adult flow is shown in Figure 1. We describe each numbered step in the flow:

1. The adult goes to an age verfication service and taps the *Connect-with-Mee* button.[4] Tapping this button is similar to traditional sign-in/sign-up flows but have other benefits, including not requiring passwords. They then begin identity verification using one of a number of alternative methods.

2. After the person has completed identity verification, the identity verification service issues the person a VC digitally signed by the age verification provider. This VC document is copied into the person's agent thereby leveraging the bidirectional nature of the digital connection that was created when the person tapped Connect-with-Mee.

3. The person goes to the service providers's app or website. In the HTTP header the

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[4]If the person doesn't have an agent installed on their device, tapping this button automatically redirects them to an app store where it can be downloaded. After that they can resume their flow.
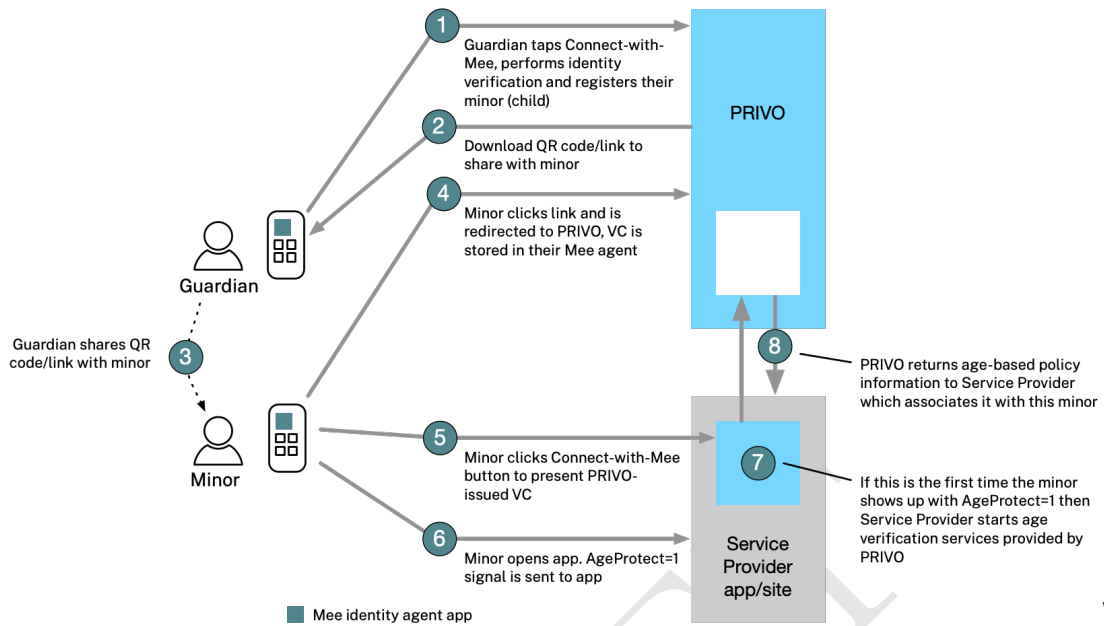
Figure 2: Minor with Guardian Flow

agent includes field name of "AgeProtect" and a value of "1".

4. If this was the first time that this person shows up with AgeProtect=1, then this and the subsequent steps are performed. In this step the service provider leverages the age verification service (shows as PRIVO in the diagram) to verify the age of the person.

5. The person taps the Connect-with-Mee button to present the PRIVO-issued VC as proof of their age and identity.

6. PRIVO returns back the authorization policy associted with this person. The service provider associates this policy with this person so that next time this person shows up, they will be recognized and the policy immeidately retrieved.

2.2   Minor flow

As shown in Figure 2 the Minor flow is more complex than the Adult person's flow described in the previous subsection. It involves two people, the minor as well as their adult guardian.

[to be written]

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3 Technical specifications

3.1 AppProtect HTTP header

...to be written...we need to describe the AppProtect=1 HTTP header field (which is identical in structure to the Global Privacy Control[5])

3.2 Initial implementation

3.3 AgeProtect HTTP header

...describe how the AgeProtect HTTP header is implemented by the AppProtect Mee connector.

...describe how the AgeProtect HTTP header is detected by service provider apps and websites

3.4 Connect-with-Mee button

...describe how the PRIVO age verification service implements Connect-with-Mee

3.5 AgeProtect Verifiable Credentials

...describe both the PRIVO import, and the PRIVO present Mee connectors and how they have been integrated into the Mee identity agent

3.6 Integration of PRIVO

...describe how our prototype service provider integrates the PRIVO service...iFrame, data exchange, capturing access policy, etc.

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[5]globalprivacycontrol.org