**PRD**: [Web] Allow signing in after playing part of Oppia’s lessons

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**Quick links**: Section 1: WHY; Section 2: WHAT

# PRD SUMMARY

This PRD describes the requirements for a new feature that will allow learners to sign in to Oppia website after they have played part of a lesson. This feature will reduce the barrier to entry for learners who don't want to create an account, while also making it easier for them to save their progress. The Oppia team is committed to implementing this feature in a timely and efficient manner.

# Approval Summary

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| Section | Reviewer | Role | Review Status | Last updated |
| [WHY](https://docs.google.com/document/d/1cha8e5H4Dfb7t8cLL2VZYi02Ysk2YEdyyalY1dDqPXE/edit" \l "bookmark=id.9oqbrzjzj7um) | Diana Chen | Web PM Lead | N/A (Author) | N/A |
| [WHAT](https://docs.google.com/document/d/1cha8e5H4Dfb7t8cLL2VZYi02Ysk2YEdyyalY1dDqPXE/edit" \l "bookmark=id.xn0sp8f6xg9i) | Diana Chen | Web PM Lead | Unreviewed | Left comments | Approved | Review not needed |  |
| Sean Lip | Web Tech Lead | Unreviewed | Left comments | Approved | Review not needed |  |

**Section 1: WHY**

This PRD describes the requirements for a new feature that will allow learners to sign in to Oppia after they have played part of a lesson. This feature will reduce the barrier to entry for learners who don't want to create an account, while also making it easier for them to save their progress.

# Problem Description

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| Target Audience | Learners, generally between 7 and 14 years old. Some may have previous experience with technology and learning platforms, but many may not.  Some learners may be coming to the Oppia website on their own, but others may be learning on Oppia due to a parent or teacher recommendation. |
| Core User Need | Currently, learners must create an account in order to save their progress in Oppia lessons. This can be a barrier to entry for some learners, especially those who are new to Oppia or who are not interested in creating an account. |
| Existing Status Quo | When the learner clicks on the "Sign in" button in the popover, they will be taken to the Oppia sign-in page. Once they have signed in, they will be returned to the lesson where they left off.  The status quo is that learners must create an account in order to save their progress in Oppia lessons. The pros and cons of this approach are as follows:  **Pros:**  It allows Oppia to track the progress of learners and provide them with personalized recommendations.  It allows Oppia to collect data on how learners are using the platform, which can be used to improve the platform for all learners.  It allows Oppia to connect learners with other learners who are interested in the same topics.  It allows Oppia to provide learners with access to additional features and resources, such as the ability to create and share their own lessons.  It allows Oppia to generate revenue from advertising and other sources, which is used to support the development and maintenance of the platform.  **Cons:**  It can be a barrier to entry for learners who do not want to create an account.  It can be annoying for learners who are only interested in using Oppia for a short period of time.  It can be difficult for learners to remember their login credentials, especially if they do not use Oppia frequently.  It can be difficult for learners to manage their privacy settings, especially if they are not familiar with web privacy.  Despite these barriers, I believe that the benefits of allowing learners to sign in after playing part of a lesson outweigh the costs. By making it easier for learners to save their progress, we can encourage more learners to use Oppia website and help them to achieve their learning goals. |
| What goals do we want the solution to achieve? | The proposed solution is to show a non-intrusive popover after the learner has finished playing a few cards in a lesson, and letting them know that they can save their progress by signing in. The popover should be small and unobtrusive, and it should not block the learner's view of the lesson. |

# Overview of the proposed solution

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| The proposed solution for allowing users to sign in after playing part of a lesson is to show a non-intrusive popover after the learner has finished playing a few cards in a lesson. The popover will be small and unobtrusive, and it will not block the learner's view of the lesson. It will clearly explain to the learner that they can save their progress by signing in. The sign-in process will be smooth and easy to follow. The learner will not lose their place in the lesson if they choose to sign in after playing part of the lesson.  This solution addresses the problem of learners who do not want to create an account but still want to save their progress. It also addresses the problem of learners who may be hesitant to sign in because they do not want to lose their place in the lesson.  The solution is feasible from a technical perspective.  The success of this feature will be measured by the following metrics:  The number of learners who sign in after seeing the popover.  The number of learners who save their progress in Oppia lessons.  The number of learners who report that they are satisfied with the sign-in process.  The Oppia team is committed to implementing this feature in a timely and efficient manner. |

### Pros/Cons of the solution

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| The proposed solution of allowing learners to sign in after playing part of a lesson has several pros and cons.  **Pros:**  It would reduce the barrier to entry for learners who do not want to create an account.  It would make it easier for learners to save their progress without having to interrupt their learning.  It would allow learners to try out Oppia without having to commit to creating an account.  It would allow learners to use Oppia on devices that they do not own, such as public computers.  It would allow learners to use Oppia in situations where they do not want to be tracked, such as when using a public Wi-Fi network.  **Cons:**  It would make it more difficult for Oppia to track the progress of learners and provide them with personalized recommendations.  It would make it more difficult for Oppia to collect data on how learners are using the platform.  It would make it more difficult for Oppia to connect learners with other learners who are interested in the same topics.  It would make it more difficult for Oppia to provide learners with access to additional features and resources, such as the ability to create and share their own lessons.  It would make it more difficult for Oppia to generate revenue from advertising and other sources, which is used to support the development and maintenance of the platform.  Limitations: It is possible that some learners may abuse the system by signing in and out of Oppia frequently to avoid having to create an account.  It is also possible that some learners may be confused about when and how to sign in, which could lead to them losing their progress.  **Evidence:**  Other platforms have tried similar solutions in the past. For example, Duolingo allows users to learn a language without having to create an account. However, users who do not create an account are not able to track their progress or save their work.  Khan Academy also allows users to learn without having to create an account. However, users who do not create an account are not able to track their progress or save their work.  Based on the evidence from other platforms, it is likely that the proposed solution would be successful in reducing the barrier to entry for learners and making it easier for learners to save their progress. However, it is also important to consider the limitations of the proposed solution, such as the potential for abuse and confusion.  Overall, I believe that the proposed solution has more pros than cons. By making it easier for learners to sign in and save their progress, we can encourage more learners to use Oppia and help them to achieve their learning goals. |

### Assumptions made

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| **For the proposed solution to work as described, the following conditions/resources need to be present/accessible:**  Users must have an internet connection.  Users must have a device that can access the Oppia website.  Users must have a web browser that is compatible with the Oppia website.  The Oppia website must be up and running.  The proposed solution will be implemented using the following technical stack:  Programming languages: Python, JavaScript  Web framework: Django  Database: MySQL  Cloud hosting: Google Cloud Platform  **Conditions/resources relating to the user:**  The user must be able to read and understand the instructions on the sign-in page.  The user must have a valid email address.  The user must be able to remember their login credentials.  Conditions/resources relating to the Oppia website:  The Oppia website must be able to store the user's login credentials securely.  The Oppia website must be able to track the user's progress in lessons.  The Oppia website must be able to provide the user with personalized recommendations. |

### Non-Goals

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| Some explicit areas that we do not plan to address in this proposal, and explanations for why we are not doing so:  Area: Tracking user progress and providing personalized recommendations  Explanation: We believe that this is a valuable feature, but it is not essential to the core functionality of Oppia. We would like to focus on developing the core functionality of Oppia before adding additional features.  Area: Collecting data on how learners are using the platform  Explanation: This data would be valuable for improving Oppia, but we believe that it is more important to respect the privacy of our learners. We do not want to collect any data that we do not need to improve Oppia.  Area: Connecting learners with other learners who are interested in the same topics  Explanation: This is a great feature for learners who want to connect with others who share their interests. However, we believe that it is more important to focus on developing the core functionality of Oppia before adding features that are not essential for learning.  Area: Providing learners with access to additional features and resources, such as the ability to create and share their own lessons.  Explanation: These are great features for learners who want to contribute to Oppia. However, we believe that it is more important to focus on developing the core functionality of Oppia before adding features that are not essential for learning. |

# Remaining Open Questions

1. (Example) Is it technically possible to Allow signing in after playing part of Oppia’s lessons

Yes, it is technically possible to allow signing in after playing part of Oppia’s lessons. This would require some changes to the Oppia website, but it is not a major technical challenge.

Here are some of the steps that would need to be taken:

* Oppia would need to track the progress of learners who are not signed in. This could be done by using cookies or another session management technique.
* Oppia would need to provide a way for learners to save their progress if they decide to sign in later. This could be done by providing a "Save progress" button that would store the learner's progress in a temporary database. When the learner signs in, their progress could be restored from the temporary database.
* Oppia would need to implement safeguards to prevent learners from abusing the system by signing in and out of Oppia frequently to avoid having to create an account. This could be done by limiting the number of times that a learner can sign in and out without creating an account.

In addition to the technical challenges, there are also some user experience challenges that would need to be addressed. For example, Oppia would need to provide clear instructions and support to help learners understand when and how to sign in.

# Section 2: WHAT

# Key User Stories, Goals, and Tasks

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| **#** | **User Story Description (role, goal, motivation)**  **“As a …, I need …, so that ….”** | **Story success metric** | **Priority** | **List of tasks needed to achieve the goal (this is the “User Journey”)** | **Links to mocks / prototypes, and/or sections spec’cing out the task’s user flows and product requirements.** | **Task success criterion** |
| User Story 1 | Save my progress in Oppia lessons without having to create an account.  Benefit to user:  Learners will be able to try out Oppia without having to commit to creating an account. This will make Oppia more accessible to learners of all levels, including those who are new to Oppia or who are not interested in creating an account. | The success metric is the percentage of learners who save their progress in Oppia lessons without having to create an account. This metric can be measured by tracking the number of learners who sign in to Oppia after seeing the popover about saving their progress. If a large percentage of learners sign in after seeing the popover, then it will indicate that the proposed solution is successful in making it easier for learners to save their progress without having to create an account. | Must Have | The learner plays through a portion of a lesson.  The learner sees a popover that tells them that they can save their progress by signing in.  The learner clicks the "Sign in" button in the popover.  The learner is taken to the Oppia sign-in page.  The learner signs in to Oppia.  The learner is returned to the lesson where they left off. |  | The learner is able to save their progress in Oppia lessons without having to create an account. |
| User Story 2 | Save my progress in Oppia lessons.  Benefit to user:  Learners will be able to start playing a lesson and then sign in later without losing their progress. This will be convenient for learners who want to try out Oppia without having to commit to creating an account, or for learners who are interrupted while playing a lesson. | To measure this success metric, the Oppia team can track the number of learners who resume a lesson where they left off, even if they haven't signed in yet. If a large percentage of learners are able to resume their lessons, then it will indicate that the proposed solution is successful. | Must Have | The learner starts playing a lesson.  The learner leaves the lesson without signing in.  The learner comes back to Oppia and signs in.  The learner clicks on the "Resume lesson" button.  The learner is returned to the lesson where they left off. |  | The learner is able to resume a lesson where they left off, even if they haven't signed in yet. |
| User Story 3 | Manage my privacy settings for Oppia.  Benefit to user: Learners will be able to control what information Oppia collects about them and how that information is used. This will give learners peace of mind knowing that their privacy is respected. | This will be measured by the percentage of learners who change their privacy settings after viewing the privacy settings page. If a large percentage of learners change their privacy settings, then it will indicate that the proposed solution is successful in providing learners with control over their privacy. | Must Have | The learner clicks on the "Privacy settings" link in the Oppia header.  The learner is taken to the Oppia privacy settings page.  The learner reviews the privacy settings and makes any desired changes.  The learner clicks the "Save changes" button. |  | The learner is able to manage their privacy settings for Oppia. |
| User Story 4 | Get help with using Oppia.  Benefit to user: Learners will be able to get help with using Oppia if they get stuck. This will help learners to get the most out of Oppia website and achieve their learning goals. | This will be measured by the percentage of learners who view the help page or watch a help video. If a large percentage of learners view the help page or watch a help video, then it will indicate that the proposed solution is successful in providing learners with the help they need to use Oppia effectively. | Must Have | The learner clicks on the "Help" link in the Oppia header.  The learner is taken to the Oppia help page.  The learner reads the help documentation or watches a help video.  The learner gets the help they need and is able to continue using Oppia. |  | The learner is able to get help with using Oppia. |

### User stories that are out of scope

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| List user stories that will be disregarded for the purposes of this PRD. If you think that the user story should be implemented in the future, you can mark it as “slated for the future”. |

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| # | User Story Description (role, goal, motivation) | Why aren’t we addressing it? | Slated for future PRD? (Yes/No) |
| 1 | Allow learners to create and share their own lessons.  This would allow learners to contribute to Oppia and help other learners to learn. | it is not essential for the core functionality of Oppia, so it can be implemented later. |  |
| 2 | Provide learners with personalized recommendations.  This would help learners to discover new lessons that are relevant to their interests and learning goals. | it is not essential for the core functionality of Oppia, so it can be implemented later. |  |
| 3 | Track learner progress and provide detailed reports.  This would be valuable information for learners and teachers. | it is not essential for the core functionality of Oppia, so it can be implemented later. |  |
| 4 | Allow learners to access Oppia website on offline devices. This would make Oppia more accessible to learners in developing countries or in areas with unreliable internet access. | it is not essential for the core functionality of Oppia, so it can be implemented later |  |

## Risks/concerns and mitigations

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| Risk/Concern | Mitigation |
| Technical challenges: Implementing the proposed solution will require some changes to the Oppia website. These changes could be complex and time-consuming to implement. There is also a risk that the changes could introduce new bugs or security vulnerabilities. | The Oppia team can break down the implementation of the proposed solution into smaller, more manageable tasks. This will help to reduce the risk of introducing new bugs or security vulnerabilities. |
| User experience challenges: It is important to ensure that the proposed solution is easy to use and understand for all learners. There is a risk that the user interface could be confusing or that the process of saving progress could be cumbersome | The Oppia team can conduct user research to understand how learners think about saving their progress and what would make the process easy and intuitive. This information can be used to design a user interface that is clear and easy to use.  The Oppia team can also test the proposed solution with learners to identify any potential pain points in the user experience. This feedback can be used to make improvements before the solution is released to all learners. |

# Internationalization/Localization

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| I believe that the feature needs to be internationalized. Allowing learners to sign in after playing part of a lesson is a learner-facing feature, and it is important to make it accessible to learners from all over the world. Here are some special considerations that should be taken into account when internationalizing the feature:  Support for right-to-left (RTL) languages: The user interface for the feature should be designed to support RTL languages. This means that the text should be aligned from right to left, and the buttons and other controls should be placed on the right side of the screen.  Translation: The text strings for the feature should be translated into all of the languages that Oppia supports. This includes both the text that is displayed to learners and the text that is used in the code.  Culturalization: The feature should be culturally adapted for all of the languages that Oppia supports. This means that the text and images should be appropriate for the cultures of the learners who will be using the feature.  Here are some additional considerations that should be taken into account when internationalizing the feature:  Unicode support: The feature should support Unicode, which is a standard for encoding characters from all of the world's languages. This will ensure that the text is displayed correctly in all languages.  Localization testing: The feature should be localized tested to ensure that it works correctly in all supported languages. This testing should include both functional testing and user experience testing.  I believe that by taking these considerations into account, Oppia can ensure that the feature is accessible to learners from all over the world. |

Success Criteria

### Key Outcomes

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| Here are some specific outcomes that I would observe if the feature is successful:  Increase in the number of learners who create accounts. If the feature makes it easier for learners to save their progress and resume lessons, then more learners will be likely to create accounts.  Increase in learner engagement. If learners are able to save their progress and resume lessons easily, then they are more likely to continue learning and engage with Oppia content.  Increased satisfaction with the Oppia website experience. If learners find it easy to save their progress and resume lessons, then they will be more satisfied with the overall Oppia experience.  Here are some specific metrics that I would track to measure the success of the feature:  Number of learners who create accounts after using the feature.  Number of lessons that learners resume using the feature.  Average time that learners spend on lessons after using the feature.  Learner satisfaction with the feature.  I believe that these metrics will provide a good measure of whether or not the feature is successful in meeting the goals stated in Section 1.  In addition to these specific metrics, I would also track other metrics that are relevant to the overall success of Oppia, such as:  Total number of active learners.  Number of lessons completed by learners.  Learner satisfaction with Oppia overall.  By tracking these metrics, I can get a holistic view of how the feature is impacting the overall Oppia experience. |

# Privacy Considerations

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| Here are some privacy controls that should be given to users to help manage this feature:  Allow users to choose whether or not their progress is saved. Users should be given the option to choose whether or not their progress is saved when they use the feature. This will give users control over their data and allow them to choose how their data is used.  Allow users to delete their saved progress. Users should be given the option to delete their saved progress at any time. This will give users control over their data and allow them to remove their data from Oppia if they no longer want it to be saved.  Allow users to view and manage their privacy settings. Users should be given the ability to view and manage their privacy settings. This will give users transparency about how their data is being used and allow them to make changes to their settings as needed.  We will need to collect some new user data as part of this feature. This data includes the following:  Whether or not the user uses the feature. This data will be used to track how often the feature is used and to identify areas for improvement.  Which lessons the user resumes using the feature. This data will be used to understand how learners are using the feature and to identify lessons that are popular.  How long the user spends on lessons after using the feature. This data will be used to understand how the feature is impacting learner engagement.  Users will have the option to opt out of having their data collected for this feature. To opt out, users will need to go to their privacy settings and turn off the "Allow my data to be used for feature improvement" setting.  Collecting new metrics does have some privacy implications. For example, if we collect data about which lessons learners are resuming, we could potentially use this data to infer the learner's interests. However, we will only use this data for feature improvement purposes and we will not share this data with any third parties.  There are some tradeoffs to consider between personalization and privacy. For example, if we collect more data about learners, we can use this data to personalize the Oppia experience. However, collecting more data also raises privacy concerns. We will need to carefully balance the need for personalization with the need to protect user privacy.  Here are some scenarios in which the user may be frustrated or concerned with how we handle data due to this feature:  A user may be concerned about their privacy if they do not understand how their data is being used. We will need to be transparent about how we are using user data and we will give users control over their data.  A user may be frustrated if they are unable to delete their saved progress. We will give users the option to delete their saved progress at any time.  A user may be concerned if they believe that their data is being shared with third parties. We will not share user data with any third parties without the user's consent.  We can avoid these situations by being transparent about how we are using user data, by giving users control over their data, and by not sharing user data with third parties without the user's consent.  I believe that these privacy controls and measures will help to protect the privacy of users and will allow them to use the feature with confidence. |

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# Other considerations

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| Here are some of the product-level launch/marketing milestones for this feature:  Stage 1:  Develop and implement the feature. This includes developing the user interface, the backend code, and the necessary tests.  Conduct user testing. This will help to ensure that the feature is easy to use and that it meets the needs of learners.  Fix any bugs that are found during user testing.  Deploy the feature to a small group of users for beta testing. This will help to identify any additional bugs or usability issues before the feature is launched to all users.  Stage 2:  Fix any bugs that are found during beta testing.  Launch the feature to all users.  Monitor the usage of the feature and collect feedback from users.  Make improvements to the feature based on the feedback that is collected.  Stage 3:  Continue to monitor the usage of the feature and collect feedback from users.  Make improvements to the feature based on the feedback that is collected.  Promote the feature to users through blog posts, social media, and other marketing channels.  The feature can be launched in stages, which is a good idea to minimize the risk of any major problems.  Here are some benefits of launching the feature in stages:  It allows us to identify and fix any bugs before they impact a large number of users.  It allows us to collect feedback from users and make improvements to the feature before it is launched to all users.  It allows us to build excitement for the feature and generate positive word-of-mouth.  Here are some challenges of launching the feature in stages:  It can take longer to launch the feature to all users.  It can be difficult to keep users engaged while we are working on making improvements to the feature.  It can be difficult to coordinate the launch of the feature across different marketing channels.  Overall, I believe that the benefits of launching the feature in stages outweigh the challenges. By launching the feature in stages, we can minimize the risk of any major problems and we can ensure that the feature is the best it can be when it is launched to all users. |  |
| Are there any teams which need to change how they work due to this feature’s release? (Not just Web + Android, but also PM, dev workflow, language accessibility, GTM, partnerships, lesson development, etc.)  Yes, there are a few teams that will need to change how they work due to the release of this feature. Here are a few examples:  Web + Android: The web and Android teams will need to implement the new feature on their respective platforms.  Product Management: The product management team will need to work with the web and Android teams to ensure that the new feature is implemented in a way that is consistent with the overall Oppia experience.  Dev Workflow: The dev workflow team will need to update the development workflow to accommodate the new feature.  Language Accessibility: The language accessibility team will need to ensure that the new feature is accessible to learners who use screen readers and other assistive technologies.  Google Tag Manager (GTM): The GTM team will need to update the GTM tags to track the new feature.  Partnerships: The partnerships team will need to work with partners to ensure that the new feature is compatible with their applications and services.  The specific changes that each team needs to make will vary depending on their role and responsibilities. However, all of the teams will need to work together to ensure that the new feature is released successfully.  Here are some specific examples of how the teams will need to change their work:  Web + Android: The web and Android teams will need to develop new user interfaces and backend code to support the new feature. They will also need to test the new feature to ensure that it works correctly on all devices and browsers.  Product Management: The product management team will need to work with the web and Android teams to define the requirements for the new feature and to ensure that it meets the needs of learners. They will also need to develop a plan for launching the new feature and for communicating with learners about the changes.  Dev Workflow: The dev workflow team will need to update the development workflow to accommodate the new feature. This may involve creating new branches and pull requests, or updating the build and release process.  Language Accessibility: The language accessibility team will need to review the new feature to ensure that it is accessible to learners who use screen readers and other assistive technologies. They may need to make changes to the user interface or to the code to improve accessibility.  Google Tag Manager (GTM): The GTM team will need to update the GTM tags to track the new feature. This will allow the team to collect data on how learners are using the feature and to identify areas for improvement.  Partnerships: The partnerships team will need to work with partners to ensure that the new feature is compatible with their applications and services. This may involve providing partners with early access to the new feature or working with them to develop integrations.  By working together, all of the teams can ensure that the new feature is released successfully and that it meets the needs of learners. |  |
| Are we taking up any new dependencies? (E.g., an app showing travel routes might have a dependency on Google Maps.) If so, what is our plan if this dependency fails under us?  Yes, we should take up a new dependency on the Google Analytics API in order to collect data on how learners are using the feature and to identify areas for improvement. If this dependency fails under us, we will have to find an alternative way to collect data on the feature. This could involve using a different analytics service or developing our own analytics solution.  In the meantime, we can mitigate the risk of the Google Analytics API failing by doing the following:  Monitoring the Google Analytics API for any outages or disruptions.  Having a backup plan in place in case the Google Analytics API fails.  By taking these steps, we can minimize the impact on learners if the Google Analytics API fails.  Here are some additional things that we can do to mitigate the risk of the Google Analytics API failing:  Use a caching mechanism to store the data that we collect from the Google Analytics API. This will allow us to continue to use the data even if the Google Analytics API is unavailable.  Use a load balancer to distribute traffic across multiple instances of the Google Analytics API. This will help to prevent the API from being overloaded and becoming unavailable.  Use a service monitoring tool to monitor the Google Analytics API for any performance or availability problems. This will allow us to identify and resolve any problems before they impact our users.  By taking these steps, we can make the feature more resilient to the failure of the Google Analytics API. |  |