

1. **New User Registration:** A new user wants to sign up on the website using a graphical password. They will be prompted to select an image and mark specific points on the image to create their password.
2. **Forgotten Password:** An existing user forgets their password and wants to reset it using their graphical password. They will need to provide the image they previously selected and correctly mark the points to reset their password.
3. **Login Attempts:** An existing user tries to log in to the website several times but fails due to incorrect password marks. They will be prompted to try again or reset their password if they have forgotten it.
4. **Login Success:** An existing user logs in successfully using their graphical password. They will be taken to their account dashboard where they can access their information and perform various actions.
5. **Update Password:** An existing user wants to update their graphical password for increased security. They will be prompted to select a new image and mark specific points to create a new password.
6. **Multiple Devices:** An existing user wants to log in to the website from multiple devices such as a laptop, smartphone, and tablet. They will be able to use the same graphical password on all devices.
7. **Incorrect Password:** An existing user tries to log in with an incorrect password by marking the wrong points on the image. They will be prompted to try again or reset their password if they have forgotten it.
8. **Incomplete Password:** An existing user tries to log in but fails to mark enough points on the image. They will be prompted to try again and mark the required number of points on the image.
9. **Security Measures:** The website implements security measures such as tracking login attempts and temporary lockouts to prevent unauthorized access.
10. **Account Management:** An existing user wants to manage their account information such as their name, email address, and password. They will be able to do so from the account dashboard.
11. **Mobile Version Login:** An existing user wants to log in to the website from their mobile device. They will be able to do so using their graphical password.
12. **Integration with Other Services:** The website integrates with other services such as social media, email, and cloud storage. An existing user will be able to access these services from their account dashboard using their graphical password.

Use Case no: 1 Use Case Name: Successful New User Sign Up

Actors: New User

Description: User is newly employed at a large firm. Once given their employer-based email they will use that credential to gain access to the site. User will first encounter home page with options to sign up or login for returning users. The new user will click sign up and be taken to the profile creation page. Here the user inputs the email given by the company and then enter fields for name and a text password and create the graphical password as well as establish security questions in the event of needing to recover access. Once finalized a confirmation email is sent containing a link to log back in. Once the link is clicked and identity is confirmed the new user is routed to the home page and can click the login button. The user will enter the email and the text password as well as the graphical password and at this point they will gain access to the work environment.

Alternate Path: User can click login and the login page will offer a button for creating a new account if they do not have an existing one.

Pre-condition: User must have employer-based email.

Use Case no: 2 Use Case Name: User exhausts all login attempts.

Actors: Existing User

Description: User arrives to home page and goes to login as an existing user. Upon being prompted to enter username and password they are rejected entry. Users will be allowed 3 attempts to gain access to their sensitive data. If the attempts are exhausted, they will be locked out and a recovery email will be sent to the company provided address. The email will contain a link to recover access. The user will click the link and be taken to the recovery page. Here they must enter their username and answer the security questions to regain access to their account. A password reset should be prompted at this point.

Alternate Path: User can after one failed attempt click a button for "Forgot Password" and the recovery process can begin then. Users are assumed to know their username as it will be provided by their employer.

Pre-condition: This user is an existing user and has already established their credentials with the site.

Use Case no: 3 Use Case Name: Existing User Forgets Password

Actors: Existing User

Description: Existing user goes to sign in but has forgotten their password. They can click the link for "Forgot Password?" and the recovery process will start with an email being sent to the company provided email that will contain a link. The link will send the user to a page where they must answer security questions to verify identity. Once approved they will be prompted to create new password. When the password is created, they are sent back to home page to sign in correctly.

Alternate Path: The user can attempt their password 3 times before being rejected

Pre-condition: User has already established profile.

Use Case no: 4 Use Case Name: Existing user success.

Actors: User with established credentials

Description: User accesses home page and inputs employer provided email and text password. User is prompted to enter graphical password and when accepted is granted access to account.

Alternate Path: User must use this path or go recovery path if they cannot recall password.

Pre-condition: User has an account.

Use Case no: 5 Use Case Name: User needs to update password

Actors: User

Description: The user has logged in to the system but wants to edit their password. Once they have successfully logged in they will go to their profile page. On this page they are offered the option to update information. To change password the user will need to input previous password and then enter a new one as well as confirm it to make sure no misspellings or mistakes were made. If it clears the password is reset and a confirmation message is displayed and email will be sent to the user.

Alternate Path: Recovery method should make the user reset their password.

Pre-condition: User is established but needs to update password

Use Case no: 6 Use Case Name: Multiple Devices

Actors: User

Description: The user once established will have the ability to access the site from many types of devices. The user will get the same experience from their phone, laptop, or tablet. They will log in as described before and use the same user ID and passwords on any device.

Alternate Path: N/A

Pre-condition: User is established and has access on an appropriate device