# ITEMBNB

## Sprint 2 Planning Document

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## Sprint Overview

In this sprint, we hope to set up the reservation portion of posted items and link borrowers and lenders through the calendar feature. We want to successfully show the availability of a posted item, create item reservations based on that availability, as well as approve/deny these item reservations. We also want to successfully link existing posted items to request posts. Finally, we want to successfully provide notifications to the status of these item requests and item posts.

**Scrum Master:** Ali Fareed Shirazi

**Meeting Plan:** Tuesdays 12 p.m. and Saturdays at 2 p.m.

## Risk and Challenges:

Most of the user stories are very dependent on each other, so testing may be difficult. We may have to anticipate edge cases or features not meshing well with each other. This sprint will also be more backend-focused, which is very different from the previous sprint where we were more frontend-focused.

# User Story #13

As a borrower, I would like to select dates while making an item reservation.

| No. | Description | Estimated Time | Owner |
|---|---|---|---|
| 1 | Create a calendar component to be used in the item post page. | 10 hours | Ali |
| 2 | Make a request to obtain availability from the backend and display the dates on the calendar. | 2 hours | Ali |
| 3 | Create an API to send availability from the backend. | 1 hour | Jun |
| 4 | Create "from:" and "to:" buttons to select and display the start and end dates for borrowing. | 2 hours | Ali |
| 5 | Create a "clear" button that clears any selected dates. | 1 hour | Ali |
| 6 | Testing | 0.5 hours | Ali |

Acceptance criteria:
1. Given the calendar is implemented correctly, the user should be able to correctly see and scroll through all dates and months on the calendar.
2. Given the calendar is implemented correctly, when an item is not available for borrowing on certain dates, those dates should be highlighted and unselectable.
3. Given the "from" button is correctly implemented, when a user clicks on it and selects a start date, the date should be displayed alongside the button.
4. Given the "to" button is correctly implemented, when a user clicks on it and selects an end date, the date should be displayed alongside the button.
5. Given the "clear" button is correctly implemented, when a user clicks on it any selected dates should be removed from the calendar and "from/to" buttons.
6. Given the calendar is implemented correctly, when the user clicks on two separate dates, that time period should be highlighted.
7. Given the calendar is implemented correctly, when the user wants to select a different start or end date, the calendar should update to reflect it, replacing their original selection of dates.

# User Story #14

As a borrower, I would like to make a reservation to borrow an item.

| No. | Description | Estimated Time | Owner |
|-----|-------------|----------------|-------|
| 1 | Create a "make request" button that parses the start and end dates and sends them to the backend. | 2 hour | Ali |
| 2 | Create a function that validates the request and confirms it does not overlap with unavailable days. | 2 hours | Ali |
| 3 | Create a component that calculates and displays the estimated total price based on the dates selected. | 2 hours | Ali |
| 4 | Set up backend API to create a user reservation and store it into the database | 2 hours | Jun |
| 5 | Testing | 0.5 hours | Ali |

Acceptance criteria:
1. Given the system is implemented correctly, when the user selects an invalid set of dates (end date before start date, overlap with unavailability, etc) an error message should appear.
2. Given the user selected valid inputs, when the user makes a request a success message should appear and a borrow request is sent to the lender.
3. Given the system is implemented correctly, when the user selects a range of dates, the user will see the estimated total price based on the range.
4. Given the system is implemented correctly, when the user changes the range of dates selected, the estimated total price should be updated to reflect that.

# User Story #27

As a lender, I would like to set up/edit my posted item's availability calendar.

| No. | Description | Estimated Time | Owner |
|---|---|---|---|
| 1 | Create functionality that lets the owner select specific dates that the item is unavailable. | 2 hours | Ali |
| 2 | Create functionality to allow the owner to select recurring unavailability (e.g. selecting every Saturday to be unavailable). | 3 hours | Ali |
| 3 | Create functionality to mark specific dates as exceptions to recurring unavailabilities (e.g. making a specific Saturday available). | 3 hours | Ali |
| 4 | Create functionality to allow the owner to edit the above. | 2 hours | Ali |
| 5 | Create backend API to update available dates for an item in the database | 2 hours | Jun |
| 6 | Testing | 0.5 hours | Ali |

Acceptance criteria:
1. Given the functionality for unavailable dates is correctly implemented, when a lender edits an item's calendar, they should be able to block out specific days the item is unavailable for borrowing.
2. Given the system is correctly implemented, the lender should be able to create recurring dates where the item is unavailable.
3. Given the edit functionality is correctly implemented, when the owner changes the availability, the changes should be reflected after they are saved.
4. Given the recurring functionality is correctly implemented, when a borrower views the calendar, the unavailable days should be unselectable for every week.
5. Given the exception functionality is correctly implemented, when a borrower views the calendar, they should be able to select the day for the week that was overridden, but not for other weeks.

# User Story #23

As a lender, I would like to link one of my items to an existing item request.

| No. | Description | Estimated Time | Owner |
|-----|-------------|----------------|-------|
| 1 | Add a list of the logged-in user's posted items to the item request page. | 2 hours | Sara |
| 2 | Add a list of all items that have been linked to a request on the item request page. | 2 hours | Sara |
| 3 | Create an interface that lets users link and unlink their items to an item request. | 4 hours | Sara |
| 5 | Create backend functions to handle the requests that must be made to the server for linking and unlinking items. | 2 hours | Sara |
| 6 | Test the added features. | 0.5 hours | Sara |

Acceptance criteria:
1. Given the user has at least one item post, when the user views an item request, the user will be able to see a list of their item posts that can be linked to the request.
2. Given that the user has at least one item post, when the user views an item request, the user will be able to switch between expanded and minimized versions of their item post list.
3. Given the user selects an item to be linked to a request, the item will now be listed on the item request's page as a linked item.
4. Given the user deselects an item to be linked to a request, the item will be removed from the item request's page as a linked item.

# User Story #22

As a borrower, I would like to be notified when a lender has linked one of their posted items to my item request.

| No. | Description | Estimated Time | Owner |
|-----|-------------|----------------|-------|
| 1 | Create a section of the website that let users view and change their item request notification options. | 3 hours | Sara |
| 2 | Create functionality to add notifications on the website itself, when new items have been linked to a user's request. | 2 hours | Sara |
| 3 | Create a dedicated section of the website where a user can view their item request notifications. | 3 hours | Sara |
| 4 | Create functionality to send an email notification to a borrower when lenders link posted items. | 2 hours | Sara |
| 5 | Test the added features. | 0.5 hours | Sara |

Acceptance criteria:
1. Given the borrower has enabled email notifications for item requests, when a lender links one of their items to the borrower's request, the borrower will receive an email notification.
2. Given the notification settings are correctly implemented, when the borrower turns off notifications for item linking in the options, they will no longer receive notifications for item linking.
3. Given the email notifications are correctly implemented, when the borrower tries to change their email in their account settings, an email confirmation will be sent to the new email.
4. Given the email notifications are correctly implemented, when the user clicks a redirect button on the email notification, they will be redirected to their item request page.
5.  Given the borrower notification is implemented correctly, when the user is online, they will receive a notification on the website when a borrowing request is made on their posted item page.

# User Story #16

As a borrower, I would like to receive a notification one day prior to my borrowing deadline.

| No. | Description | Estimated Time | Owner |
|---|---|---|---|
| 1 | Create a section of the website that lets users view and change their borrowing deadline notification options. | 3 hours | Sara |
| 2 | Create functionality to add notifications to the website itself, when a borrower's deadline is coming up. | 2 hours | Sara |
| 3 | Create a dedicated section of the website where a user can view their borrowing deadline notifications. | 3 hours | Sara |
| 4 | Create functionality to send an email notification to a borrower when their deadline is approaching. | 2 hours | Sara |
| 5 | Test the added features. | 0.5 hours | Sara |

Acceptance criteria:
1. Given the borrower has enabled email notifications for borrowing deadlines, when a borrowing deadline is a day away, the borrower will receive an email notification.
2. Given the notification settings are correctly implemented, when the borrower turns off notifications for borrowing deadlines in the options, they will no longer receive notifications for borrowing deadlines.
3. Given the email notifications are correctly implemented, when the user clicks a redirect button on the email notification, they will be redirected to the item they are borrowing.
4. Given the website notifications are implemented correctly, when the user is online, they will receive a notification on the website when their borrowing deadline is near.
5. Given the website notifications are implemented correctly, the user will be able to see a list of their past deadline notifications when they are logged in.

# User Story #29

As a lender, I would like to view the list of borrowing requests for my posted items.

| No. | Description | Estimated Time | Owner |
|---|---|---|---|
| 1 | Create an API function in the server to query all borrowing requests for the item to send to the server. | 2 hours | Kay |
| 2 | Create a section in the item page that shows the list of borrowing requests with borrower's details. | 2 hours | Kay |
| 3 | Create a function in the frontend that shows all borrowing request dates in the item calendar. | 2 hours | Kay |
| 4 | Create a function in the frontend that brings the user to the borrower's userpage when clicked on the profile picture. | 2 hours | Kay |
| 5 | Testing | 2 hours | Kay |

Acceptance criteria:
1. Given that the borrowing requests list view is implemented correctly, when the user clicks on his/her posted item's page, he/she will see a list of borrowing requests with the borrower's details.
2. Given that the borrowing requests list view is implemented correctly, when the user clicks on his/her posted item's page, he/she will see the lists of pending request dates on the calendar.
3. Given that the borrowing requests list view is implemented correctly, when the user clicks on a profile picture of the borrower, he/she will navigate to the borrower's user page.
4. Given that the borrowing requests list view is implemented correctly, when the user hovers over a borrowing request, the dates for that borrowing request will be highlighted.

# User Story #30

As a lender, I would like to be notified when a borrower has requested to borrow my item.

| No. | Description | Estimated Time | Owner |
|-----|-------------|----------------|-------|
| 1 | Create a function in the backend that sends an email to the user when his/her item's borrow request is made. (User is idle) | 3 hours | Kay |
| 2 | Create a function in the backend that sends a notification to the user when his/her item's borrow request is made. (User is online) | 3 hours | Kay |
| 3 | Create an email body where if the user clicks on the notification, it brings them to their posted item page with the new borrow request. | 2 hours | Kay |
| 4 | Testing | 2 hours | Kay |

Acceptance criteria:
1. Given the borrower notification is implemented correctly, when the user is idle, he/she will receive an email notification when a borrowing request is made on his/her posted item page.
2. Given the borrower notification is implemented correctly and the user is idle, when the user clicks on the redirection button on the email notification, he/she will be redirected to their posted item page.
3. Given the borrower notification is implemented correctly, when the user is online, he/she will receive a notification in the webpage when a borrowing request is made on his/her posted item page.
4. Given the borrower notification is implemented correctly and the user is active, when the user clicks on the notification, he/she will be redirected to their posted item page.

# User Story #31

As a lender, I would like to be able to accept or deny a borrower's request (reservation status = pending).

| No. | Description | Estimated Time | Owner |
|---|---|---|---|
| 1 | Create a UI interface that pops up with an accept/deny button when a user clicks on a borrower requests. | 2 hours | Kay |
| 2 | Create a function that checks the availability of other borrowing requests and asks for a second confirmation for overlapping borrowing requests (if the user approves). | 2 hours | Kay |
| 3 | Create an API function in the backend to update the item's unavailability list. | 1 hour | Kay |
| 4 | Create an API function in the backend to update the borrower's request. | 1 hour | Kay |
| 5 | Create a function to send email notification to the borrower about his/her borrowing request status (borrower is idle). | 1 hour | Kay |
| 6 | Create a function to send a notification in the webpage to borrower about his/her borrowing request status (borrower is active). | 1 hour | Kay |
| 7 | Testing | 2 hours | Kay |

Acceptance criteria:
1. Given the accept-deny borrowing request feature is implemented correctly, when a user clicks on a borrowing request, he/she will see an interface with two buttons, either to accept or to deny.
2. Given the accept-deny borrowing request feature is implemented correctly, when there are two or more overlapping borrowing request dates and the user chooses to approve one of them, he/she will see another confirmation message showing the other borrowing requests that have availability conflicts.
3. Given the accept-deny borrowing request feature is implemented correctly, when the user approves a borrowing request, he/she will receive a success message.

# User Story #28

As a lender, I would like my calendar to be automatically updated when an item reservation is made, approved or denied.

| No. | Description | Estimated Time | Owner |
|---|---|---|---|
| 1 | Set up database infrastructure to be able to store reserved, approved and denied dates/statuses. | 2 hours | Jun |
| 2 | Create API functions to update reserved/approved/denied dates in the database | 3 hours | Jun |
| 3 | Create API functions to send reserved/approved/denied dates back to the frontend. | 2 hours | Jun |
| 4 | Create feature to update calendar interface with data retrieved from the backend | 2 hours | Jun |
| 5 | Testing | 1 hours | Jun |

Acceptance criteria:
1. Given that the automatic update feature is working correctly, when a lender receives an item reservation, then he should be able to see the reserved dates colored in that item's calendar.
2. Given that the automatic update feature is working correctly, when a lender approves an item reservation, then he should be able to see the approved dates colored in that item's calendar.
3. Given that the automatic update feature is working correctly, when a lender denies an item reservation, then he should be able to see the denied dates should be uncolored in that item's calendar.

# User Story #17

As a borrower, I would like to view reservations that are pending, i.e. reservations that have not been approved/rejected yet.

| No. | Description | Estimated Time | Owner |
|-----|-------------|----------------|-------|
| 1 | Set up email notification system | 2 hours | Jun |
| 2 | Create separate approved and pending interfaces/messages for the item post page. | 2 hours | Jun |
| 3 | Create a pending item reservations page. | 3 hours | Jun |
| 4 | Set up backend API to send item reservation data and integrate it with the frontend | 2 hours | Jun |
| 5 | Testing | 1 hours | Jun |

Acceptance criteria:
1. Given that the user has made an item reservation, when he enters his pending item reservations page, then he will be able to see the reserved item there.
2. Given that a user's pending reservation has been approved/denied, he will receive an email notification informing him.
3. Given that the user's pending reservation has been approved/denied, when he enters his pending item reservations page, then the item reservation will no longer be there.
4. Given that the pending reservations page is working, when a user clicks on an item, he will be redirected to that specific item's page.
5. Given that the user has made an item reservation that is pending approval, when the user enters the item post page of that item, then he would see a message saying that his item is reserved and awaiting approval.
6. Given that the user's pending reservation has been approved, when he enters the item post page of the item that has been approved, then he would be able to see a message saying that his item reservation has been approved.
7. Given that the user's pending reservation has been denied, when he enters the item post page of that item, the page will return to a state where the user can make another reservation.

# User Story #33

As a borrower/lender, I would like to see a list of all my approved and active reservations, and update the transaction status timeline whenever I receive/give away and return/get back items (similar to viewing and updating the tracking status bar of a package delivery from FedEx).

| No. | Description | Estimated Time | Owner |
|---|---|---|---|
| 1 | Create active reservations page | 3 hours | Jun |
| 2 | Implement tracking bar feature that can be updated when items are received/returned | 3 hours | Jun |
| 3 | Set up backend API to handle processing the tracking statuses of items | 3 hours | Jun |
| 4 | Testing | 2 hours | Jun |

Acceptance criteria:
1. Given that the user has active and approved transactions in progress, when he navigates to the active reservations page, he will be able to see the current transaction status, via a timeline format, on each item.
2. Given that the active reservations page is implemented correctly, when the user navigates to it, he will be able to see two distinct sections for items he has lended (as a lender) and items he has borrowed (as a borrower).
3. Given that the borrower (user) has received an item and wants to confirm it, when he clicks on the "received" button and clicks on the confirmation, then the item's status bar will be updated to show that it has been received. The status bar will also be updated on the lender's end.
4. Given that the lender (user) has received his item back from the borrower and wants to confirm it, when he clicks on the "received" button and clicks on the confirmation, then he will receive a message indicating the transaction has been completed, and the item will be removed from the list. The item will also be removed from the list of active items on the borrower's side.
5. Given that the active reservations page is working, when a user clicks on an item, he will be redirected to that specific item's page.

# Remaining Backlog

Functional Requirements

1. ~~As a user, I would like to register for an Itembnb account.~~
2. ~~As a user, I would like to log in and log out of my account.~~
3. ~~As a user, I would like to view/edit/delete my profile.~~
4. As a user, I would like to rate and review a lender or borrower after they've completed a transaction with me.
5. I would like to be able to view a simple chat interface between myself and other users.
6. I would like to send and receive chat messages with another user for in-progress lending activities (items I have borrowed but have yet to return) in real time, as well as get notified if someone messages me.
7. ~~As a user, I would like to see a homepage with a feed for items up for borrowing and items that people have requested.~~
8. As a borrower, I would like to search for available items.
9. As a borrower, I would like to filter search items by category, tags, price range, etc.
10. ~~As a borrower, I would like to view a posted item's details - description, lender info, date, etc.~~
11. ~~As a borrower, I would like to favorite a posted item to save it for later.~~
12. ~~As a borrower, I would like to see a list of all my favorited items.~~
13. As a borrower, I would like to select dates while making an item reservation.
14. As a borrower, I would like to make a reservation to borrow an item.
15. As a borrower, I would like to view my borrowing history.
16. As a borrower, I would like to receive a notification one day prior to my borrowing deadline.
17. As a borrower, I would like to view reservations that are pending, i.e. reservations that have not been approved/rejected yet.
18. As a borrower, I would like to rate and review an item I have borrowed.
19. As a borrower, I would like to see a map view of items up for borrowing near me (if time allows).

20. ~~As a borrower, I would like to create an item request for an item I want to borrow that is not listed on the site.~~
21. ~~As a borrower, I would like to edit/delete my item request.~~
22. As a borrower, I would like to be notified when a lender has linked one of their posted items to my item request.
23. As a lender, I would like to link one of my items to an existing item request.
24. ~~As a lender, I would like to post an item with a price and assign it to predefined categories.~~
25. ~~As a lender, I would like to add a thumbnail image and multiple preview images to my posted item.~~
26. ~~As a lender, I would like to edit/delete my posted item.~~
27. As a lender, I would like to set up/edit my posted item's calendar.
28. As a lender, I would like my calendar to be automatically updated when an item reservation is made, approved or denied.
29. As a lender, I would like to view the list of borrowing requests for my posted items.
30. As a lender, I would like to be notified when a borrower has requested to borrow my item.
31. As a lender, I would like to be able to accept or deny a borrower's request.
32. As a lender, I would like to view my lending history.
33. As a borrower/lender, I would like to see a list of all my approved and active reservations, and update the transaction status timeline whenever I receive/give away and return/get back items (similar to viewing and updating the tracking status bar of a package delivery from FedEx).
34. As a lender, I would like to receive payment from a borrower for lending my item to them (if time allows).
35. As a lender, I would like to reimburse a borrower for returning my item to me (if time allows).