



# Address Book for Ubercart 3

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## Introduction

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I would like to propose adding the Ubercart Address Book (uc\_address\_book) module to Ubercart 3 (UC3) as an optional core module.

This module is the UC3 version of Ubercart Addresses (uc\_addresses). The rename is for clarity: this module is *not* responsible for addresses in Ubercart—just addresses intended for a customer's address book.

## Address Book Module Requirements

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I will abbreviate Address Book as AB in this document.

### Basics

- Since AB is not a required module, it must allow for customers without any addresses. This allows site owners to enable the module on a system that already has customers.
- AB must obey all the address settings currently in Checkout settings -> Address fields.
- AB will allow customers to create, edit and delete a set of addresses.
- The address book will appear as a menu subtask in the customer's profile.
- Within the set of a customer's addresses, all addresses must be unique. AB will not allow the customer to insert or update an address if it duplicates one of his/her existing addresses.

### Security

AB will support the following permissions:

- View own addresses (uc\_addresses always allows this)
- Add/Edit own addresses (uc\_addresses always allows this)
- View all default addresses
- View all addresses
- Add/Edit all addresses

uc\_cart should support these:

- Edit checkout shipping address.
- Edit checkout billing address.

I've had a few requests from people where the site owner enters addresses for a customer and doesn't want the customer to be able to change them.

### The default address

- If a customer has at least one address, then AB will identify one address as the "default address".
- The first address added to the address book automatically becomes the default address.
- AB will not allow anyone to delete the default address.
- Customers can change which address their default address.
- Customers can edit the default address.

### Address nickname

- Customers may give an address an optional nickname.
- If an address has no nickname, AB will create one.
- Customer may edit the address nicknames, but not delete it.
- Within a customer's address book, all nicknames will be unique. AB will not allow the customer to add or edit a nickname that duplicates one of his/her existing nicknames.
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### Options

AB will add the following options to the store configuration:

- Require that a new customer enter an address during registration. (A note should be included that, if anonymous checkout is enabled, at least one address field should be required during checkout or else an anonymous user will be able to register by buying something without providing any addresses. This would be rare but might occur if, for example, there are downloadable products offered for free.)

### API

AB will provide public access to allow other modules to:

- Fetch the default address for a customer.
- Alter which address is the default.
- Fetch all addresses for a customer.
- Add an address to the customer's address book (can't create duplicates).
- Delete an address from the customer's address book (can't delete default address).
- Alter an existing address (can't create duplicate addresses or nicknames).

AB will create the following hooks:

- `hook_uc_address_book_load($addresses)` - Called after one or more addresses are loaded from the address book. `$addresses` is an array of `$address` objects.
- `hook_uc_address_book_insert(&edit, $address)` - Called after a new address is added to the address book. `$edit` is the array for form values submitted by the customer and `$address` is the address object added.

- `hook_uc_address_book_update($address)` - Called after an address is updated. `$address` is the updated address object.
- `hook_uc_address_book_delete($address)` - Called after an address is deleted. `$address` is the deleted address object.
- `hook_uc_address_book_default_address_changed($old_address, $new_address)` - Called after the default address is changed. `$old_address` is the old default address and `$new_address` is the new one.
- `hook_uc_address_book_create_nickname($address, $nicknames)` - Whenever a new or edited address does not have a nickname, this hook will be called to generate one. `$address` is the address needing a nickname. `$nicknames` is an array of existing nicknames for the associated customer. If multiple modules respond, the first valid response is used. If there are no valid responses, AB will use its own algorithm.

## Ubercart 3 Core Suggested Changes

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### Address configuration

Currently, `uc_addresses` adds an Addresses menu to the store configuration. I would like to propose that this menu be added by core UC. The AB module would add its options as a menu subtask titled "Address Book".

I also suggest that the options currently under Checkout settings -> Address fields be placed as a menu subtask of the Address page.

## Ubercart 3 Core Suggested Address Book Extensions

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Once the site owner enables the AB module, other modules may choose to extend the address book features. This section discusses suggested extensions for the UC3 core modules, probably `uc_cart` and `uc_order`.

### Pre-filling addresses

- UC3 should provide an option to pre-fill/not pre-fill the checkout shipping address.
- UC3 should provide an option to pre-fill/not pre-fill the billing address.
- During checkout, if the pre-fill option is selected for shipping and/or billing, the corresponding address fields should be pre-filled with the associated customer's default address. (Note: if the shipping address is pre-filled, the shipping cost should be calculated.)
- This feature could be extended to support admin-created orders.

### Selecting addresses

- Wherever someone can enter an address, UC should allow him or her to select an address from the address book of the associated customer. Once selected, UC will fill in the address fields with the data in the selected AB address.

### Saving addresses

- For new, customer-created orders, UC should add an option to:
  - Let the customer choose whether a shipping or billing address will be saved OR
  - Never save addresses

- During checkout, if the system is set to save addresses on request, UC should provide the customer with a method of indicating that it should save an address. This could be a checkbox that UC processes once the order is completed or it could be an AJAX-powered button that saves the address when clicked.
- If the address already exists for the given customer, AB will not add a duplicate. AB will return an error to UC and UC may choose to display the error or ignore it, depending on the interface selected.
- UC could choose to extend this option to support administrator-created orders.
- When customers review orders in their profile, the order could provide a button to save the billing and/or shipping addresses. This is highly recommended. If this feature is not provided, then UC should give the site owner the option to have UC silently save all shipping and/or billing addresses during checkout. (I believe letting customers select which addresses they want to save and then giving them an option to change their mind and add addresses from old orders is preferable to automatically saving everything.)

Some notes above saving addresses:

- There are two fields that a customer can enter when creating an address using AB that might not be available when saving a checkout address: the address nickname and whether this address should become the new default address. With an AJAX interface, it would be possible to request this additional information, but this is an optional enhancement.
- When `hook_uc_checkout_complete()` is called is a good time to save an address that is being passively saved.
- For anonymous checkout, UC must create the account before adding addresses (this is the case when `hook_order_completed()` is called). Since the first address saved becomes the default address, so UC should save the billing address first (if it exists) and then the shipping address (if it exists).
- There may be rare conditions where an anonymous user supplies no addresses, in which case none are stored.

## The Checkout Address Selection Interface

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UC can choose to continue with the existing interfaces used by `uc_addresses`, but I do not make this a requirement. The current interface is to use a drop-down with the address nicknames used to identify an address.

Amazon allows a user to select an address by listing each available address completely as a set of radio button choices with an option for creating a new address. The default address is the first choice and also the selected choice. There is also an option for creating a new address.

I just took a look at NewEgg.com and their system is very similar to that used by `uc_addresses`.

I have not done a survey of the different strategies used to collect a customer's shipping and billing information during checkout. Since the checkout interface can dramatically affect the success of an ecommerce store, it might be useful to do some UX research. In any case, UC could implement the current `uc_addresses` interface for right now and then consider changing the interface in the future.