

Linking between Inventory / Stock Items, Ingredients, Recipe (product) & PLU Items.

Terminology:

- **Inventory Items (Stock Items)** – Items that you will purchase and forms part of your Cost of Sales and is used in your Stock Management (Actual Cost & Variance) system. They typically have following properties:
 - **Enabled/Disabled** – Whether the item is enabled or disabled, items are not removed from the system, because you can report historically on the item.
 - **SKU Code (Stock Keeping Unit Code)** – This code is used to uniquely identify stock items and is used for importing a Stock Count from a Spreadsheet or a Stock Counting Scanner Device like Cipher Lab.
 - **Taxable** – This identifies whether Vat will be added when item is purchased.
 - **Min QTY** – Par level minimum QTY used in Order Planning / Par Levels
 - **Max QTY** – For use in Custom reports – such as Overstock Report
 - **Cost Centre** – Cost Centre for the item. Typically: Food / Beverage / Other
 - **Category** – Item Category: Dry Goods, Spices, Beer, Fish, etc.
 - **Group** – A Secondary Item grouping. e.g. New Menu Items, High Cost Items. Mainly used when reporting Stock Variance and Stock on Hand.
 - **Description** - Item name: Apple, Mince, Amstel, etc
 - **Units** - Each, kg, litre, etc
 - **Listed** - Yes/No: This will determine whether the item will be listed on your stock sheets (actual & variance) AND if there is stock of the item. If a item like “ice” does not need to be listed, because you do not take stock of this item, but you do purchase the item, you will not list it.
 - **Recipe** - If “yes”, then this item is produced by yourself (like “patties”) using the attached recipe. This field basically only indicates that this item has a recipe attached to it
 - **Preferred Supplier** - this is optional field allowing us to draw reports for the sales of items linked to this stock item per preferred supplier. Applicable when the company has to report back to the suppliers.
 - **Linkage** – Displays information whether the item links to a PLU item and / or Material / Ingredient as well as the details to what does the item link to. **Note:** A Single Inventory / Stock Item can link to multiple Ingredients as well as multiple PLU items.

- **Material / Ingredient** – Items that you use in your RECIPES as ingredients. They typically have the following properties:
 - **Category** – Category such as: “FOOD”, “BEVERAGE”, “NEW MENU”
 - **Description** - Item name: Mince, Sugar, Flour, Vodka Smirnoff, etc
 - **Unit** – Ingredient unit (g, ml, kg, l, each, can, slice etc) **Note:** Inventory item bought in “kg” can be linked to an Ingredient Item with a unit “g”, because you buy the product in KG but your recipe uses grams of the item.
 - **Inventory Item** – This is the Inventory item to be used for this Ingredient. **Note:** The Ingredient is a product of yield control as described below.
 - **Yield** – Inventory Item Yield. Example: Raw Potato KG Stock Item → Yield 80% → Peel Potato KG Ingredient. In most cases you can also do that in your recipe (see below).
 - **Cost** – This is automatically retrieved when the Linked Inventory Item is Purchased in the system through a GRV. The cost is calculated as an average cost price of the purchases over the last 3 months, but this also editable if there is no purchase done or no linkage specified before the purchase (GRV) is finalized.

- **Recipe / Product** – Recipes can be used as a Standalone (for costing purposes). It can also be attached to a PLU OR an Inventory Item (for production methods), OR as an ingredient to another Recipe (Sub-recipe). (See attached Diagram below. They typically have following properties:
 - **Category** – Category such as: “FOOD”, “BEVERAGE”, “NEW MENU”
 - **Name** – Name of the recipe
 - **Description** – Comments / Full description (used for printing)
 - **Method** – Preparation details / method (used for printing)
 - **Yield(s)** – One or more yields that the recipe will have – primary used when the recipe is attached.
 - **Ingredient(s)** – Qty of one or more ingredients used in the recipe.
 - **Additional Cost(s)** – Description and Rand value of additional costs involved
- **PLU** – Stands for Price Look Up and it is the item that appears on the POS Screens as “Buttons”. The item has various options of which only Name and Price are compulsory. Herewith full a description of the options:
 - **PLU Code** – code used for identifying the item when selling using keypad till
 - **Display name** – name of item used for the screens
 - **Bill slip name** – name of item for printing on customer slips
 - **Order slip name** – name of item for printing on order slips on dispatch / kitchen printer / screen
 - **Standard selling price** – Selling unit price (including of TAX)
 - **Standard Discount** – Predefined unit price discount.
 - **Cost Center** – Food, Beverage Other, etc. Must match the cost centre of the Inventory Item when a 1-to-1 link is used (see below)
 - **Active** – yes / no. Items are not removed from the system when not active, because you can report historically on the item.
 - **In Stock** – yes / no. When the item is temporary not in stock, it can be set as out-of-stock which will prevent the system from allowing a sale on it as well as flash (indicate) on the POS screens that the item is out of stock.
 - **Order Printer** – printer used to print orders when the item is placed / paid (retail).
 - **Position** – order of the item if not alphabetically ordered. Item with position 1 will be displayed before item with position 2, regardless the name.
 - **Product / Recipe** – shows how many products /recipes are linked to the PLU. By clicking you will be allowed to verify or change to which recipe does your PLU link.
 - **Inventory Item** – shows that the PLU item links or not, to an Inventory Item – 1-to-1. By clicking on it you will be allowed to change / verify the link.
 - **Shortcut for** – Specifies which other items are linked to this item as shortcuts. Shortcutting allows you to link two or more items from one or more categories based on a co-selling factor – example – Whiskey + Soda. Allows to sell both without changing category to Sodas.
 - **Auto Open Shortcuts** – Together with “Shortcut for” it flips the page straight to the short-cut items automatically when the main PLU is clicked allowing for quicker operation.
 - **Limit shortcut QTY** – this options allows for limit of the count of sub-items that can be charged upon ringing up of the main PLU which links to them. For example – 1xGourmet Brekfast + 1 x Free Coffee + 1 x Free Fanta (where 1 x Free Coffee and 1 x Free Fanta and can only be charged together with Breakfast and only 1 of each). Used when both of the extra two items are a different and priced at R0 price and included in the main PLU price.
 - **Shortcut Only** – item is only linking to other items and it cannot be used as a PLU itself – similar to a folder.
 - **Auto Ring** – used together with a Shortcut. This is only to specify that by ordering the button, will ring up all the attached PLU items with their predefined QTY. Good option if you want to create a so called Invoice / Quote template which allows a person to ring up a pre-selected list of items as one click instead of one-by-one.
 - **Instructions** – specifies a pop-up of one or more instructions to be printed on the order slip. Please note that these instructions should mainly have information with a no stock effect – for example PLU Coffee: Instructions * Hot Milk * Cold Milk
 - **Auto-pop-up** – specifies that an Instructions pop-up shows compulsory when the main PLU is clicked.
 - **Active From** – specifies the start date for the PLU – The POS system will not display this PLU prior to this date.
 - **Active to** – end date for the PLU – The POS system will not display this PLU after this date
 - **Category** – which folder does this PLU belong to

- **Predefined QTY** – The qty of the item when PLU button is clicked – normally 1. Would be -1 if you are a bottle store and dealing with refund on empty bottles or if you have Pizza options and you would like to deduct an option.
- **Barcode** – PLU Barcode – used in Retail
- **Scale Barcode** – specifies that the barcode of the item is generated by an electronic scale. Example: **2005011**202007 where the green is the PLU Barcode portion is the same for this PLU on the scale.
- **Photo** – Attached Photo for Printing of the PLU for a Cook Book as well as the photo which the POS terminal will display if asked for more information on the specified item.
- **Thumbnail** – An alternative picture to display on the POS terminal instead of the item name.

Additional PLU Functions:

- **Print Full Page Details** – Prints A4 page with the PLU details, recipe and photo for the use as a part of a Recipe manual. Example – laminate and give to the kitchen staff.
- **Item Cost** – displays the item cost / GP for the selected item only.

Linkage Importance

Linking is important so you can properly have a running cost of your PLU items, as well as properly calculate Theoretical Stock usage during Stock on Hand or Variance Reports.

Linkage options include the following:

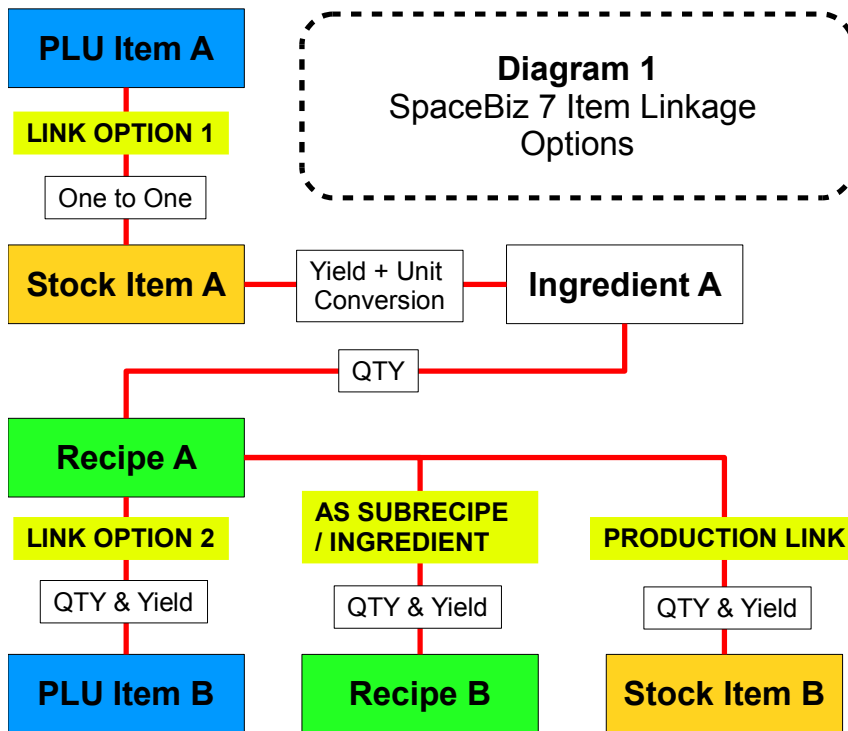
- **PLU to Inventory Item** (also called 1-to-1) is when your stock that you buy (Inventory Items) is the same item than the one you sell.
- **PLU to Recipe** – used when you Produce what you Sell. A Recipe on the other hand uses Ingredient(s). Ingredients are linked to the Inventory / Stock item. (see diagram).
- **Recipe to Recipe** (as an Ingredient)
- **Recipe to Inventory Item** – used to specify how to convert stock (Production / Disassembly)

Stock Control Principles in SpaceBiz

Please note that SpaceBiz controls your stock using two independent stock control systems. One is called Actual Stock Control and the one is called Theoretical / Variance Stock Control. **Only Variance Stock Control is directly affected by your Linkage!**

- **Actual Stock Control** – It is entirely based on the value of the stock using First In First Out. Actual Stock allows you to monitor and manage your Stock Value as well as your Cost of Sales / GP. Herewith the details:
 - **Opening Stock Value** = Last Closing Stock value – calculated based on F.I.F.O. Formula.
 - **Purchases Value** = Purchases Value for the period between Opening and Closing stock
 - **Credit Notes Value** = Credit Notes Value for the period between Opening and Closing stock
 - **Total Available Value** = Opening Stock Value + Purchases Value – Credit Notes Value
 - **Closing Stock Value** – A Calculation of the Value of your current Stock On Hand using F.I.F.O
 - **Usage Value** = Total Available Value – Closing Stock Value = Usage
 - **Turnover Value** = Turnover for the period between Opening and Closing stock.
 - **Business Cost** = Usage Value / Turnover Value * 100 % = Cost of Sales
- **Variance Stock Control** – This is based on Theoretical Stock on Hand (the system) vs Actual Stock on Hand (counted by you) and gives a variance. Example: you had 10 items, you bought 10, you sold 5 which mean that your Theoretical Stock on Hand should be 15. You have counted 14 and the system will report a variance of 1 and as an “under”. Variance opening stock is also used to determine Stock on Hand (Theoretical) in your Stock on Hand report.

Stock Linking Diagram 1.



Link Option 1,2 – used when Costing PLU or When Reporting Variance and Par Levels

Production Link – used when moving stock – Assemble Disassemble Through SBT (Storage Bin Transfer)

Notes:

Recipe Cost

Cost of Ingredients is used to cost a Recipe. It is retrieved when GRV is finalized & the following link exists: "Stock Item A" → "Ingredient Item A".

Actual Stock Take Actual Cost

Please also note that Recipe / PLU Linkage does not affect your Actual Cost Reports as they are purely based on Your actual stock only usage.

Theoretical Sales History / PLU Cost

Linkage is not historical. This means that if you change a link your PLU cost and variance reports will also change historically.

Recipe Loading Details

Click on Point of Sale → PLU/Product Control → Product / Recipe Design

Add Recipe

- Click on Add New Item
- Specify Category (ex. "New Menu 2010"), Name (eg "Pasta"), Yield (eg "10 Portions")
- Optionally you can specify cooking method as well as detailed description (note).
- Press Save and you will be taken to the ingredients section
- Load your ingredients. Note: You have 3 tabs – one is allowing to load Ingredients, second one allowing you to load Recipe as an ingredient (Sub recipes) and third tab allowing you to just specify fixed cost – for example "Garnish R 0.10".
- You are done.

If you want to see Cost of a recipe

- Click on green arrow under the column Cost. Click "OK" to see detailed view or "Cancel" to see only total of the cost without breakdown.

To modify Ingredient(s)

- Click on "Go" under the "Ingredients" column.

To modify Yield(s)

- Click on value under "Yield" column.

To modify Description, Method or Category

- Click on Name of recipe under the column "Product / Recipe Name"

Attach to PLU

A recipe created like this can be attached to a PLU item for Theoretical Stock control as well as PLU costing by simply clicking on Point of Sale → PLU/Product Control → PLU Editor → Any PLU Item → Product / Recipes link inside the PLU editing screen. The recipe attaching screen will give you a drop down list of your recipes as well as available one or more defined yields. Eg – Plu item “Pasta Small” will use “1 of 10 Portions” defined in the example above.

Once a recipe is attached you can retrieve the cost for that PLU as well as the GP that you make selling it at the current price.

Attach to Stock Item

A recipe can be attached to a Stock Item which will allow you to use the following two functions : Stock Production and Dis-assembling (SBT) and Stock Planning (Prep Sheets).

Through stock production / dis-assembling you can convert stock from raw ingredients (using the recipe) to produced ingredients. For example you are allowed to GRV the “Burger Patty” item as well as you are allowed to use 100g of mince (as specified in your recipe for Patty) and convert Mince to Burger Patty. Please contact us for more details on how can this be utilized in various industries.

Please note that the content of this document covers Version 7.1 of SpaceBiz.

Space Solutions Open Source Initiative

Please consider using and supporting Open Source Technology and standards!

SpaceBiz Software itself is entirely build using open source standards and software.

Companies and services relying / supporting open source technology and standards: Google, Yahoo, FaceBook, Amazon, Oracle, etc.

90% of the online banking in the world is using Java which is open source technology.

This entire document is created using Oracle OpenOffice.org v3.

Please feel free to email us for more information.