CONESTOGA
Connect Life and Learning

Student Name:	Ramon Baiao
Assignment:	Exercise #3 – Spaghetti Analysis ver 1.1
Course Name:	Business Process

Date Assigned:	26 September 2017
Date Due:	03 October 2017
Rules:	1) This assignment will be completed individually 2) You will use the tools VISIO and EXCEL for this exercise 3) Your work must be your own 4) Each deliverable should be clear and simple to read
Grade: (Instructor Use)	

ELICITATION DOCUMENT

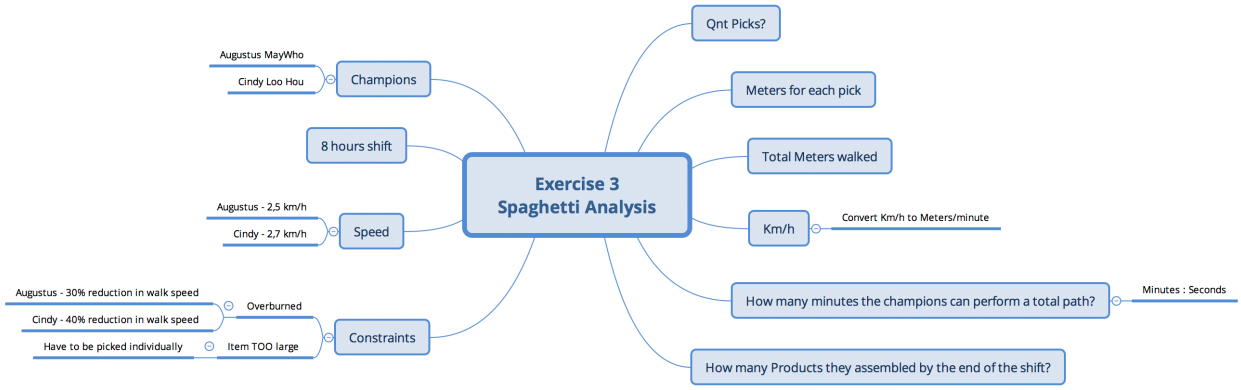
Version 1.0
26 September 2017
Student: Ramon Baiao

ELICITATION DESIGN DOCUMENT

OBJECTIVE

This document contains instructions that must be follow to create the Spaghetti Analysis Exercise 3.

BRAINSTORM



DATA WILL BE COLLECTED AS FOLLOWS:

- Measuring the distance Augustus and Cindy makes from their individual assembly lines to each of specific shelf row and bay areas where they pick components.
- Making use of the length tool using Meters as unit.
- Record distance in meters.
- Total working time (minutes and seconds) in a day.
- Number of complete picks on a working day.
- Recording and storing the data in Excel.

APPROACH

- Using VISIO you will create a Spaghetti Analysis in the template given (Figure 1)
- All measurements and path should be used the Visio Measurement Tool (Figure 2).
- All items must be picked in the sequence written.
- Small items (items with no constraint) can be picked together if they are sequentially ordered.
- If there is an item with a constraint (size/weight) then an individual trip is required to bring those products back to the start point.
- Should be used the logical and closest path.
- Measure to the 'center' of each bay for each complete pick.
- Follow the paths for each champion that are listed on "BP - Exercise #3 Spaghetti Analysis.docx".
- The listing the individual timings have to recorded on an excel file.

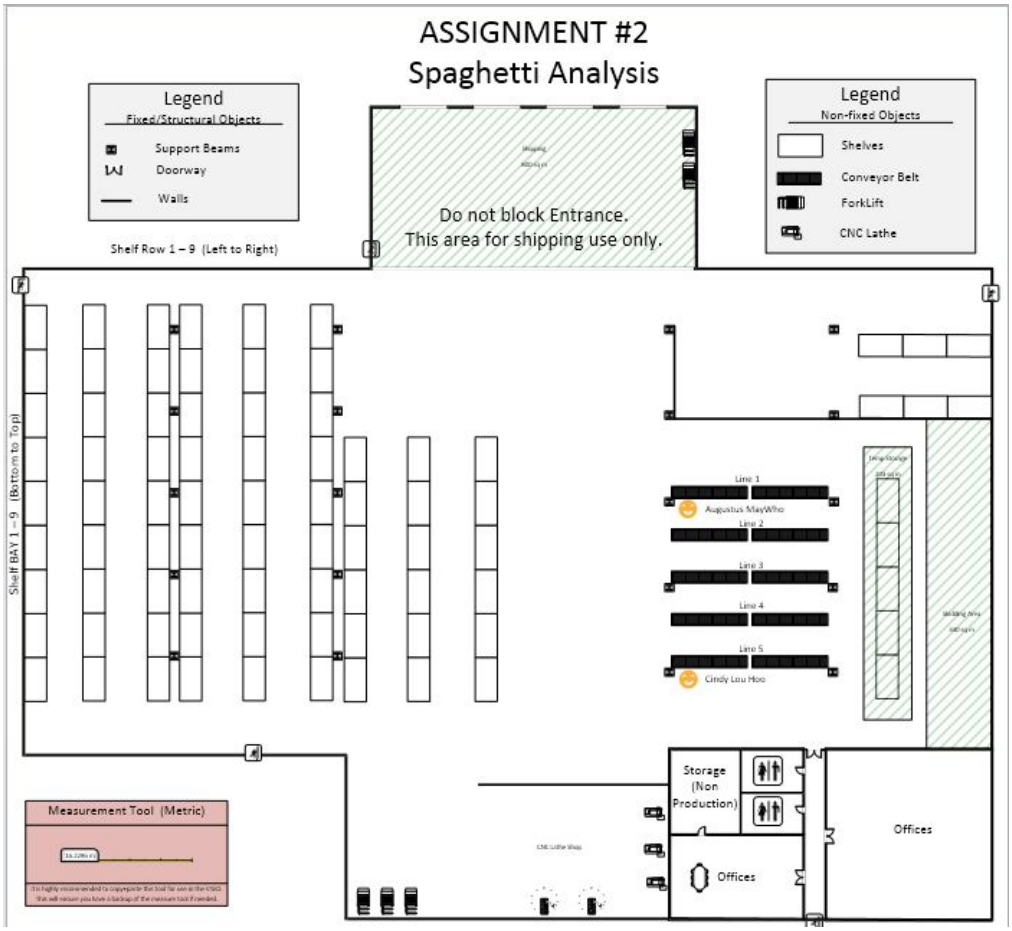


Figure 1

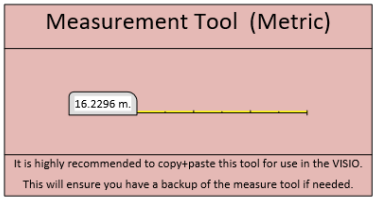


Figure 2

PATHS

Champion Augustus MayWho

SEQUENCE OF PICK	Row	Bay	Constraint[3]
1	9	3	
2	3	6	
3	2	1	
4	4	7	Item TOO large
5	4	4	
6	1	2	Overburdened Item TOO Large
7	8	5	

Champion Cindy Loo Hou

SEQUENCE OF PICK	Row	Bay	Constraint
1	1	1	
2	9	6	
3	6	9	
4	4	5	Overburdened
5	4	5	Overburdened
6	3	3	
7	7	1	

CALCULATIONS

- Convert speed from km/h to m/min
- Time=Distance/Speed
- Total time to complete one pick is calculated in minutes:seconds
- Convert Working hours in 1 day into minutes in 1 day

- Total number of picks in 1 day= Working minutes in 1 day/total time to complete 1 pick
- Champions speed:

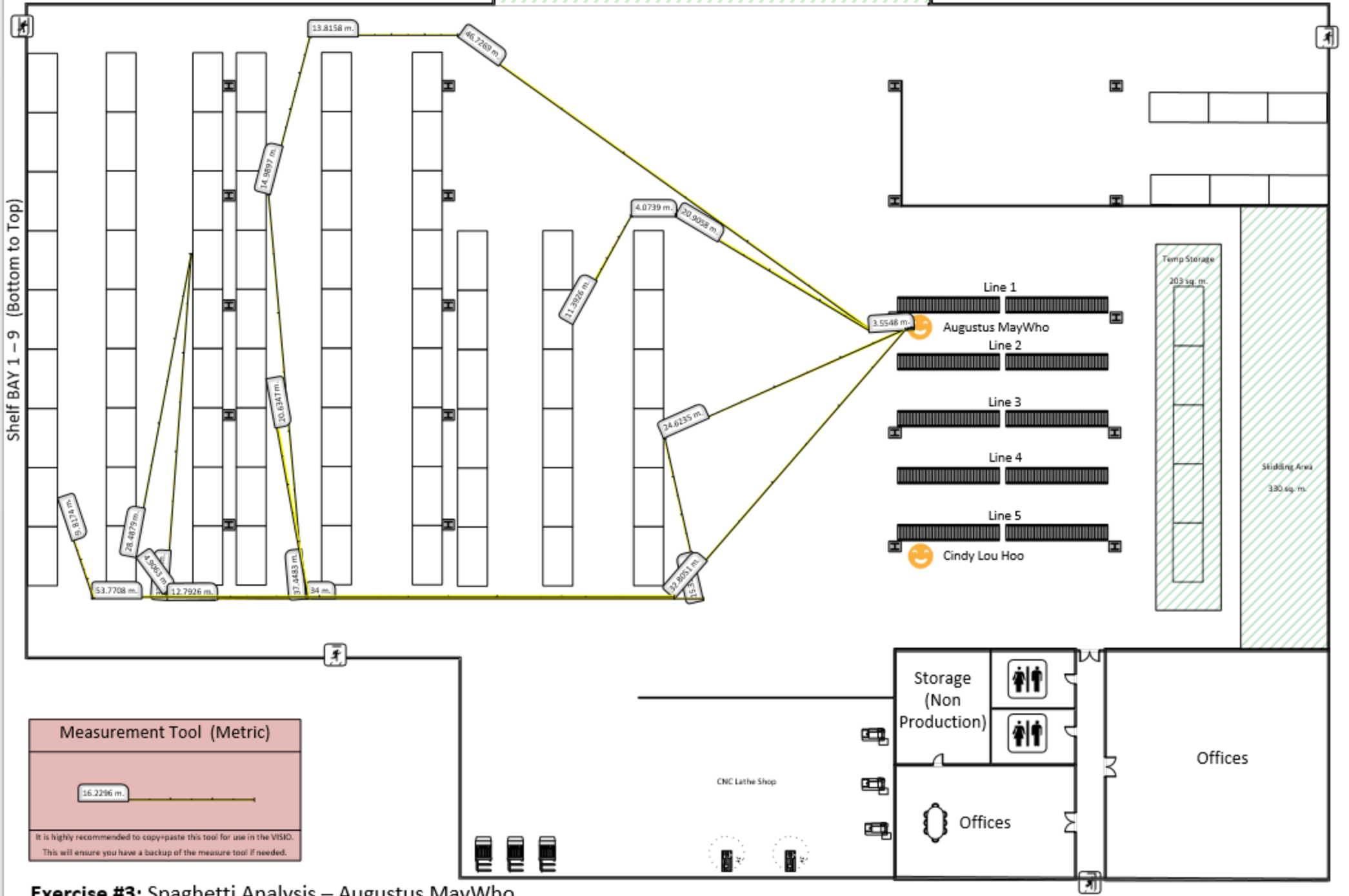
Name	Normal Walk Speed	Overburdened[12] Walk Speed
Augustus MayWho	2.5 Km/h	30% reduction in speed
Cindy Lou Hoo	2.7 Km/h	40% reduction in speed

CONSTRAINTS

- Overburdened Walk Speed – When the champion is carrying on object that is too heavy.
- If no constraint has been stated then there are no constraints on that specific item. These items can be picked at the same time, if they are sequentially ordered.

REFERENCE DOCUMENTS:

1. BP - Exercise #3 Spaghetti Analysis.docx



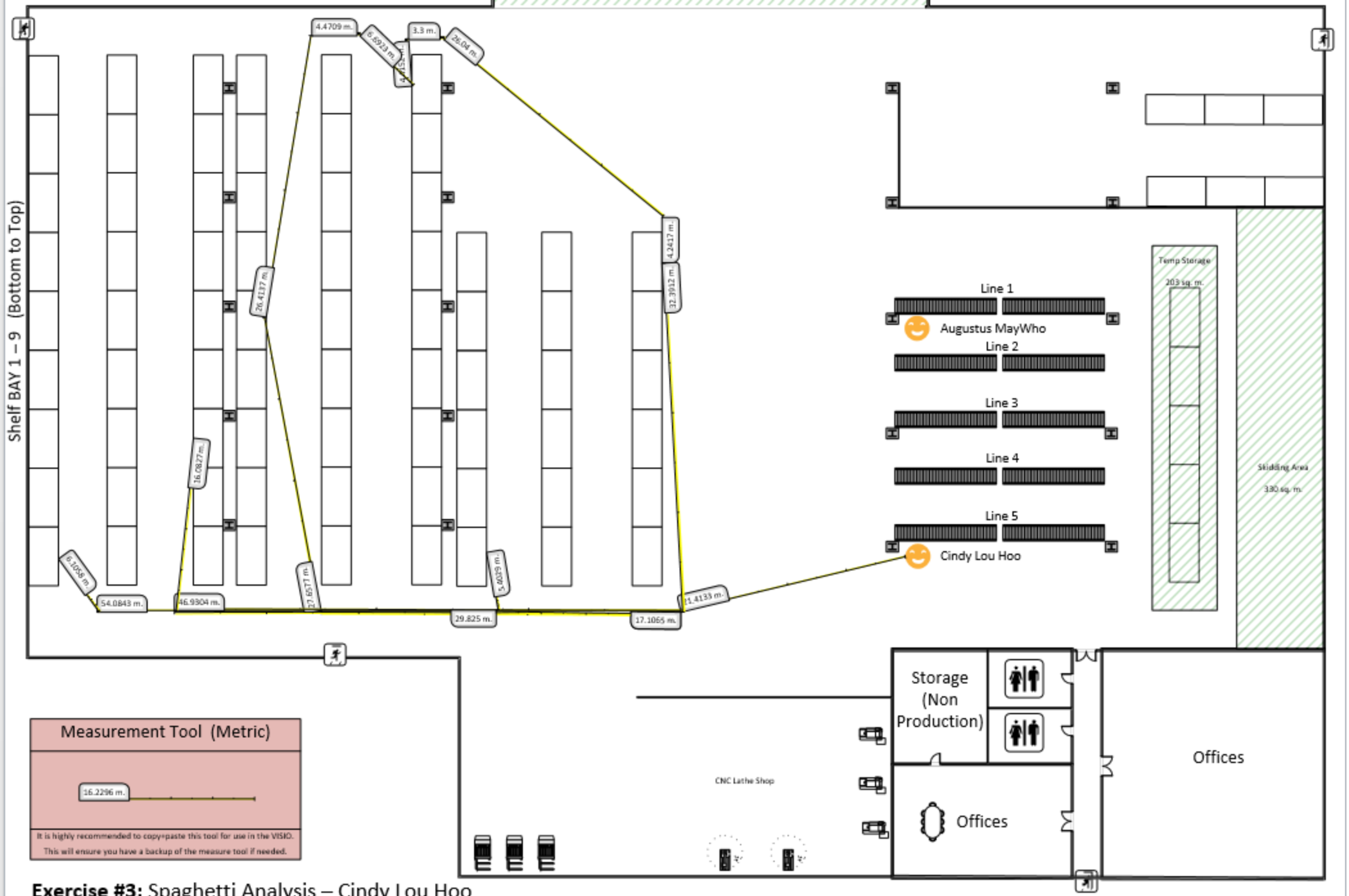
Exercise #3: Spaghetti Analysis – Augustus MayWho
Date: 26 September 2017
Student: Ramon Baiao
Version 1

Exercise #3 - Version 1
Ramon Baiao
26 Setember 2017

Champion: Augustus MayWho

Sequence of pick	Row	Bay	Constraint	Meters
1	**9**	**3**		24.6235
2	**3**	**6**		97.0529
3	**2**	**1**		28.4879
4	**4**	**7**	**Item Too Large**	55.1472
Starting Point			**Deliver Products**	79.0872
5	**4**	**4**		87.4398
			Deliver Products	87.4398
6	**1**	**2**	**OverBurdened Item TOO Large**	96.3934
Starting Point			**Deliver Products**	96.3934
7	**8**	**5**		39.9271
Starting Point				39.9271
			Total Walking	**731.9193**

	Km/h	**Meter/Min**	
Normal Walk Speed	2.5	41.66666667	**1 Path**
Overburdened Walk Speed	1.75	29.16666667	18 Minutes 33 sec
	Total	**Minutes**	**8 hours work**
Normal Meters Walked	635.5259	15.2526216	26 Paths
OverBurdened Meter Walked	96.3934	3.304916571	
Total	**731.9193**	**18.55753817**	



Exercise #3: Spaghetti Analysis – Cindy Lou Hoo
Date: 26 Setember 2017
Student: Ramon Baiao
Version 1

Exercise #3 - Version 1
Ramon Baiao
26 Setember 2017

Champion Cindy Lou Hoo

Sequence of pick	Row	Bay	Constraint	Meters
1	**1**	**1**		81.6034
2	**9**	**6**		92.5813
3	**6**	**9**		37.997
4	**4**	**5**	**OverBurdened**	37.5768
Starting Point				82.4015
5	**4**	**5**	**OverBurdened**	82.4015
Starting Point				82.4015
6	**3**	**3**		84.4264
7	**7**	**1**		51.3106
Starting Point				43.9227
			Total Walking	**676.6227**

	Km/h	**Meter/Min**	
Normal Walk Speed	2.7	45	**1 Path**
Overburdened Walk Speed	1.62	27	17 Minutes 33 sec
	Total	**Minutes**	**8 hours work**
Normal Meters Walked	511.8197	11.37377111	27 Paths
OverBurdened Meter Walked	164.803	6.103814815	
Total	**676.6227**	**17.47758593**	

GROUP ELICITATION DOCUMENT

Version 2.0
01 October 2017
Group Members: Ramon Baiao
Peter Ogedegbe
Manjinder Kaur
Dharminder Singh

ELICITATION DESIGN DOCUMENT

OBJECTIVE

This document contains instructions that must be followed to recreate the Spaghetti Analysis Exercise 3.

DATA WILL BE COLLECTED AS FOLLOWS:

- Measuring the distance Augustus and Cindy makes from their individual assembly lines to each of specific shelf row and bay areas where they pick components.
- Making use of the length tool using Meters as our unit.
- Measure to the 'center' of each bay for each complete pick (green dot at the center of the bay).
- Record distance in meters.
- Total working time (minutes and seconds) in a day.
- Number of complete picks on a working day.
- Recording and storing our data in Excel.

APPROACH

- All members should be using the Visio file that contains the designed path with the walkable area (Figure 1).
- Their exact location has been marked on the VISIO diagram "BP - Exercise #3 - Spaghetti Defined Path.vsdx".
- Within the green dotted lines, it is 'walkable' area, creating a grid.
- All measurements and path should be used the Visio Measurement Tool (Figure 2).

- All measurements will be performed within this grid.
- There will be no deviation from the outlined grid.
- Should be used the logical and closest path.
- Measure to the ‘center’ of each bay for each complete pick (green dot at the center of the bay).
- The paths for each champion are listed on “BP - Exercise #3 Spaghetti Analysis.docx”.

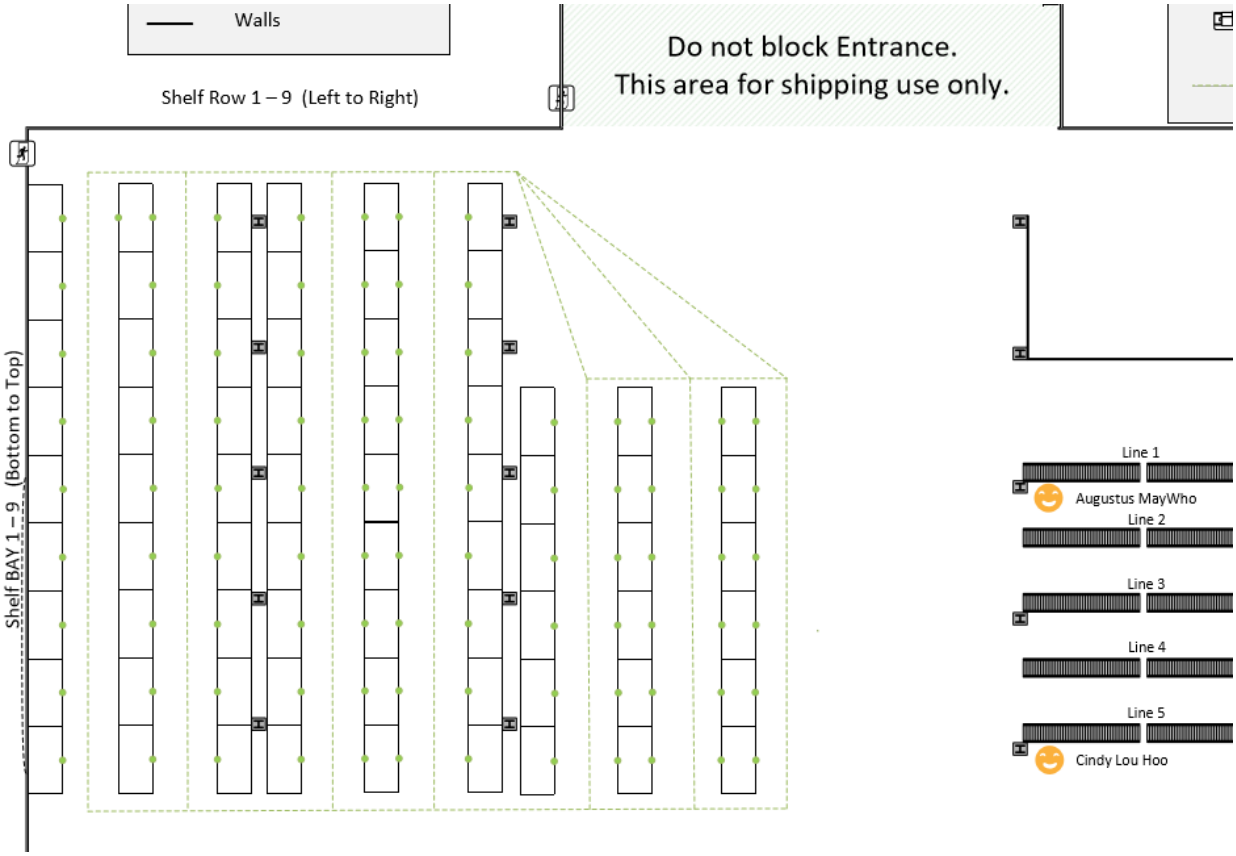


Figure 1

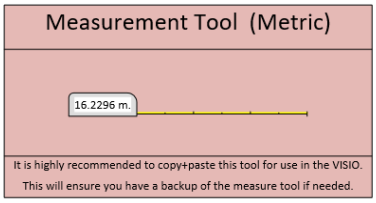


Figure 2

CALCULATIONS

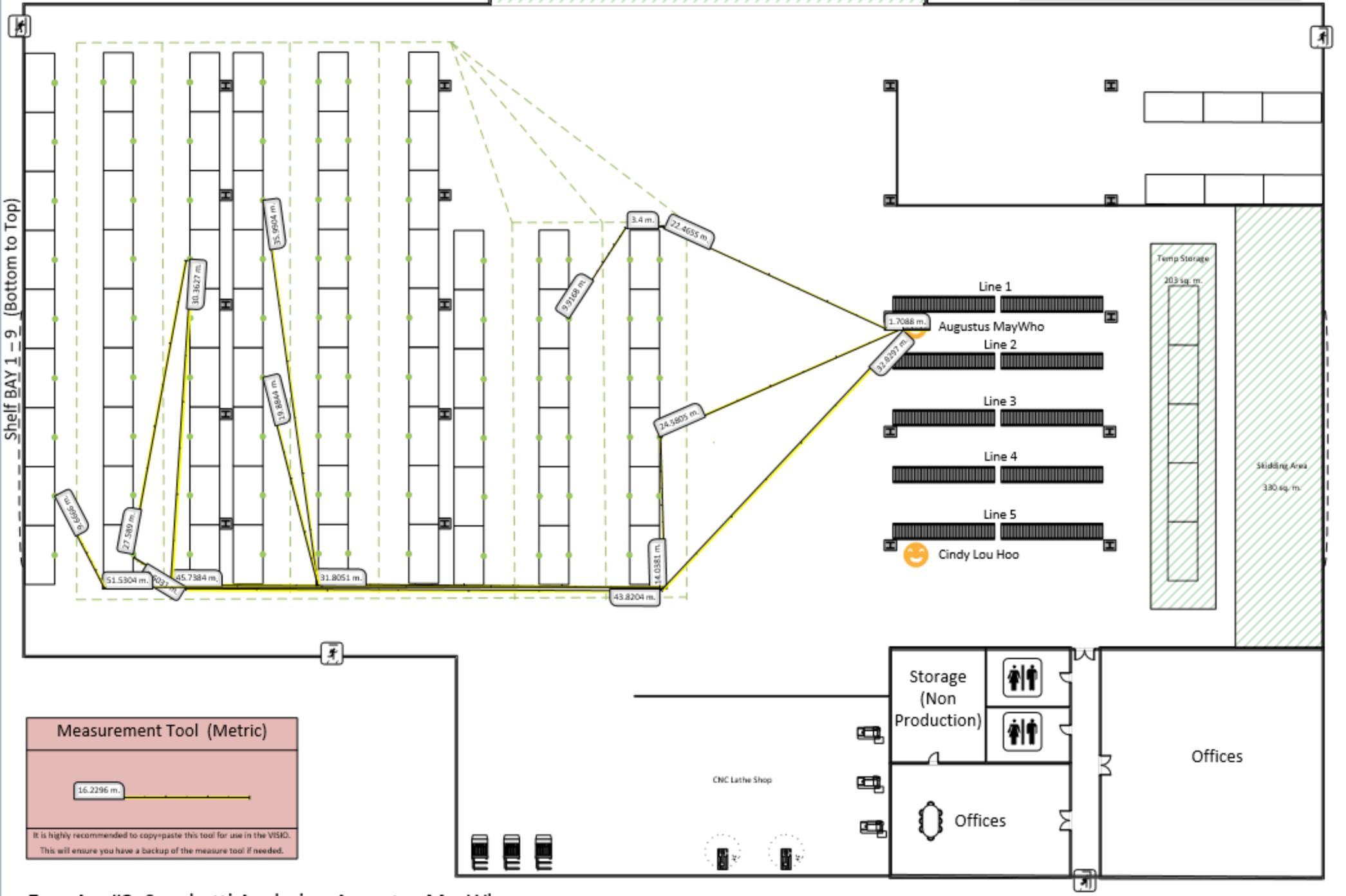
- Convert speed from km/h to m/min
- Time=Distance/Speed
- Total time to complete one pick is calculated in minutes:seconds
- Convert Working hours in 1 day into minutes in 1 day
- Total number of picks in 1 day= Working minutes in 1 day/total time to complete 1 pick

CONSTRAINTS

- Overburdened Walk Speed – When the champion is carrying on object that is too heavy.
- If no constraint has been stated then there are no constraints on that specific item. These items can be picked at the same time, if they are sequentially ordered.

REFERENCE DOCUMENTS:

1. BP - Exercise #3 Spaghetti Analysis.docx
2. BP - Exercise #3 - Spaghetti Defined Path.vsdx



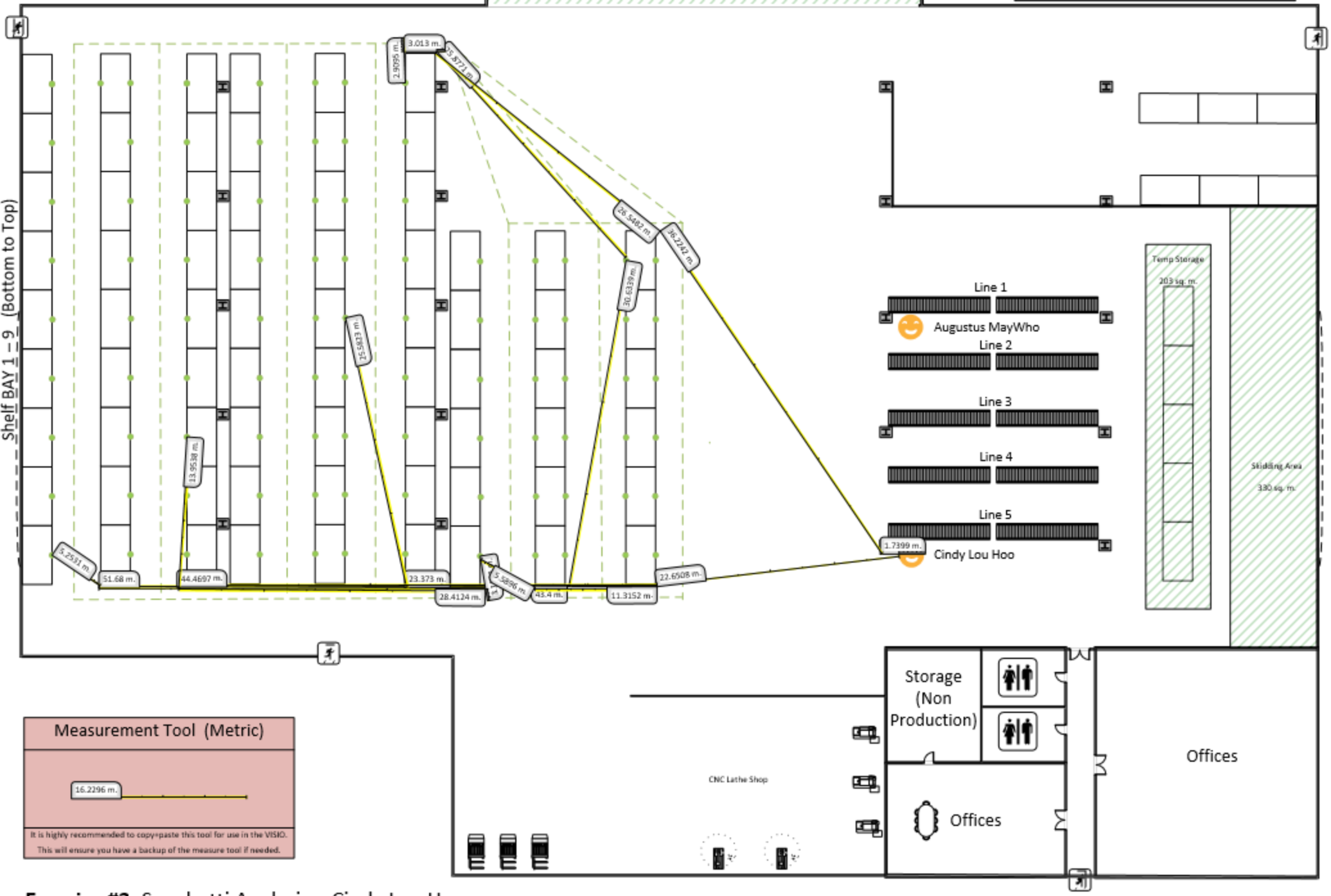
Exercise #3: Spaghetti Analysis – Augustus MayWho
Date: 03 October 2017 **Version** 2.0
Student: Ramon Baiao

Exercise #3 - Version 2
Ramon Baiao
Tuesday, October 3, 2017

Champion: **Augustus MayWho**

Sequence of pick	Row	Bay	Constraint	Meter 1	Meter 2	Meter 3	Total Meters
1	9	3		24.5806			24.5806
2	3	6		14.0381	45.05	30.3627	89.4508
3	2	1		27.589			27.589
Deliver Product(s) Starting Point				5.5031	43.8205	32.8297	82.1533
4	4	7	Item Too Large	32.8297	31.8051	35.9904	100.6252
Deliver Product(s) Starting Point				32.8297	31.8051	35.9904	100.6252
5	4	4		32.8296	31.8051	19.8844	84.5191
Deliver Product(s) Starting Point				32.8296	31.8051	19.8844	84.5191
6	1	2	Item TOO Large	32.8296	51.5304	9.6666	94.0266
Deliver Product(s) Starting Point			OverBurdened	32.8296	51.5304	9.6666	94.0266
7	8	5		22.4655	3.4	9.9168	35.7823
Deliver Product(s) Starting Point				22.4655	3.4	9.9168	35.7823
						Total Walking	853.6801

	Km/h	Meter/Min	
Normal Walk Speed	2.5	41.66666667	1 Path
Overburdened Walk Speed	1.75	29.16666667	21 Min 27 Sec
	Total	Minutes	8 hours work
Normal Meters Walked	759.6535	18.231684	22 Paths
OverBurdened Meter Walked	94.0266	3.223769143	
Total	853.6801	21.45545314	



Measurement Tool (Metric)

16.2296 m.

It is highly recommended to copy+paste this tool for use in the VISIO. This will ensure you have a backup of the measure tool if needed.

Exercise #3: Spaghetti Analysis – Cindy Lou Hoo
Date: 03 October 2017 Version 2.0
Student: Ramon Baiao

Exercise #3 - Version 2
Ramon Baiao
Tuesday, October 3, 2017

Champion **Cindy Lou Hoo**

Sequence of pick	Row	Bay	Constraint	Meter 1	Meter 2	Meter 3	Meter 4	Meter 5	Meters
1	1	1		22.6508	51.68	5.2531			79.5839
2	9	6		5.2531	52.3298	43.4	30.6339		131.6168
3	6	9		25.8771	3.013	2.9095			31.7996
Deliver Product(s) Starting Point				2.9095	3.013	26.5482	36.2242	1.7399	70.4348
4	4	5		22.6508	23.3729	25.5823			71.606
Deliver Product(s) Starting Point			OverBurdened	22.6508	23.3729	25.5823			71.606
5	4	5		22.6508	23.3729	25.5823			71.606
Deliver Product(s) Starting Point			OverBurdened	22.6508	23.3729	25.5823			71.606
6	3	3		22.6508	44.4697	13.9538			81.0743
7	7	1		13.9538	28.4124	3.1163			45.4825
Deliver Product(s) Starting Point				5.5896	11.3152	22.6508			39.5556
								Total Walking	765.9715

	Km/h	Meter/Min	
Normal Walk Speed	2.5	41.66667	**1 Path**
Overburdened Walk Speed	1.75	29.16667	**19 Min 51 Sec**
	Total	**Minutes**	**8 hours work**
Normal Meters Walked	622.7595	14.94623	**24 Paths**
OverBurdened Meter Walked	143.212	4.910126	
Total	**765.9715**	**19.85635**	