

ME537 - PRODUCT REALIZATION - BOM			
PROJECT NAME	3T Tic-Tac-Toe		
TEAM MEMBERS	Tim, Jon	SUPERVISOR	Anna Thornton
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DATE	February 26, 2020	AUTHORS	
DOCUMENT TRACKING			
VERSION	EDITS COMPLETED BY	DATE	DESCRIPTION OF EDIT
1.0	Jon Harger	02/13/2020	First Material Listing
Links to other documents			
Doc #	Name	Link	Description
3T_CostModel_Ver_1	Cost Model	Link	

Notes
The BOM is for calculating the material costs of the product. This is the MBOM which includes all consumables needed to product the units

BOM V1			
PROJECT NAME	3D Tic-Tac-Toe		
DATE	February 26, 2020	AUTHORS	
BOM	Total COGs	Total	
BOM-Concept	1	\$354.11	
BOM-Mass Production	1	\$10.55	
BOM-PVT	1	\$11.91	

Mass Production

1	Part number	Part name	Type	Quantity	per unit	material	Labor time (hours)	Labor costs	Extended labor	Machine hour	Machine costs	machine	TOTAL	Supplier	number	LT (days)	MOQ	Assumptions	Links
1	XXX	Box	Fabricated	1.00		\$2.01							\$2.01						
3	C-5062	Glue, Wood	Consumable	1	\$0.11	\$0.11	0.016667	\$30.00	\$0.60	0.00000	\$0.00	\$0.00	\$0.61	Home Depot	-		3 640oz		https://www.homedepot.com/p/3m-5062-wood-glue-64-oz-bottle/203204883
2		Side Panels	Fabricated	2.00		\$0.37							\$0.37						
3	P-BAL19	Plywood, 9mm 50"x50"	Manufacturing mat	0.01	\$6.19	\$0.04	0.002083	\$30.00	\$0.06	0.00208	\$40.00	\$0.08	\$0.19	Eden Saw	BAL19	1	50"x50"		http://www.edensaw.com/main/site/layer1/6/layer/products/ProductDetail/31191
2		Front Panel	Fabricated	1.00		\$0.19							\$0.19						
3	P-BAL19	Plywood, 9mm 50"x50"	Manufacturing mat	0.01	\$6.19	\$0.04	0.002083	\$30.00	\$0.06	0.00208	\$40.00	\$0.08	\$0.19	Eden Saw	BAL19	1	50"x50"		http://www.edensaw.com/main/site/layer1/6/layer/products/ProductDetail/31191
2		Back Panel	Fabricated	1.00		\$0.19							\$0.19						
3	P-BAL19	Plywood, 9mm 50"x50"	Manufacturing mat	0.01	\$6.19	\$0.04	0.002083	\$30.00	\$0.06	0.00208	\$40.00	\$0.08	\$0.19	Eden Saw	BAL19	1	50"x50"		http://www.edensaw.com/main/site/layer1/6/layer/products/ProductDetail/31191
2		Bottom Panel	Fabricated	1.00		\$0.52							\$0.52						
3	P-5303	Plywood, 1/8x4x12"	Purchased	0.25	\$1.49	\$0.37	0.002083	\$30.00	\$0.06	0.00208	\$40.00	\$0.08	\$0.52	Economy Hardware Co.	5303		1 1/8" x 4" x 12"		http://www.truevalue.com/hardware/bldg-materials/furniture/buywoodcraft-boards-1-8-x-4-x-12-in
2		Sliding Lid	Purchased	1.00	\$0.40	\$0.40									FS-B2464	7-25	300		
2	P-121C	Rope	Purchased	1.00	\$0.24	\$0.24	0.001389	\$30.00	\$0.04	0.00000	\$0.00	\$0.00	\$0.28	Bulk Ropes	121C		600'		http://www.bulkropes.com/finished-cotton-rope-3/8/
1		Round Piece Package	Fabricated	1.00		\$4.10							\$4.10						
2		Round Piece	Purchased	14.00	\$0.29	\$4.06					\$0.19		\$2.62	\$6.68	Custom Part Net			estimation based on 70000 pieces	Normal Precision, Normal Surface, Moderate Complexity Machine costs are taken from cost calculator. Total equals part plus machine costs
2		Ziplock Bag	Purchased	1.00	\$0.04	\$0.04							\$0.04	Dongguan Yiwel Plastic Company	ziplock bag-011C		5000pc 60 8x12cm	5000-9999pc: \$0.03/pc 10000+pc: \$0.005/pc Sourcing through Alibaba	https://www.alibaba.com/product-detail/ziplock-bag-011C_60754097471.html?spm=a2700.7724867.normalui.44.1617268313.varew
1		Twisted Piece Package	Fabricated	1.00		\$3.96							\$3.96						
2		Twisted Piece	Purchased	14.00	\$0.28	\$3.92					\$0.31		\$4.33	\$8.25	Custom Part Net			estimation based on 70000 pieces	Normal Precision, Normal Surface, Complex Features Machine costs are taken from cost calculator. Total equals part plus machine costs
2		Ziplock Bag	Purchased	1.00	\$0.04	\$0.04							\$0.04	Dongguan Yiwel Plastic Company	ziplock bag-011C		5000pc 60 8x12cm	5000-9999pc: \$0.03/pc 10000+pc: \$0.005/pc Sourcing through Alibaba	https://www.alibaba.com/product-detail/Promotion Industrial Ziplock Bag_60754097471.html?spm=a2700.7724867.normalui.44.1617268313.varew
1		Packaging	Fabricated	1.00		\$0.49							\$0.49						
2	P-011	Paper Info Insert	Purchased	1.00	\$0.30	\$0.30							\$0.30	Qingdao Blooming Colour Industry and Trade Co.	11	10 Man + 24 Ship	1000pc 19.5x 6.5x 0.35 cm		http://www.alibaba.com/product-detail/Custom Full-color Printing Folding Bag_60754097471.html?spm=a2700.7724867.normalui.44.1617268313.varew
2	P-QM050	Plastic Covering	Purchased	1.00	\$0.10	\$0.10							\$0.10	Shenzhen Gmel Packing Materials	QM050	15 Man. + 24 ship		Custom Size. Printed instructions	https://www.alibaba.com/product-detail/Custom Full-color Printing Folding Bag_60754097471.html?spm=a2700.7724867.normalui.44.1617268313.varew
2		Paper Spacers	Purchased	6.00	\$0.02	\$0.09							\$0.09	Dongguan Hongqun Environmental Protection Material Co.	HQ505	7 Man + 24 ship			http://www.alibaba.com/product-detail/Business Paper Protector for Factory_60754097471.html?spm=a2700.7724867.normalui.44.1617268313.varew
2		Front Paper Spacers	Purchased	2.00	\$0.02	\$0.03							\$0.03	Dongguan Hongqun Environmental Protection Material Co.	HQ506	8 Man + 24 ship			http://www.alibaba.com/product-detail/Business Paper Protector for Factory_60754097471.html?spm=a2700.7724867.normalui.44.1617268313.varew

Concept Design

Level	Part number	Part name	Type	Quantity	Material cost per unit	Extended material	Labor time (hours)	Labor costs	Extended labor	Machine hour	Machine costs	Extended machine	TOTAL	Supplier	Mfg part number	LT (days)	MOQ	Assumptions	Links
1		Box Sides	Fabricated	3.00	\$5.34	\$16.03	3.50	\$30.00	\$105.00	3.50	\$40.00	\$140.00	\$261.03						
2	P-91157053254	Plywood, 3/8"	Purchased	0.50	\$9.99	\$5.00	0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	\$5.00	Hardware	91157053254	1	12" x 12"		plywood-3/8x12x12sq
2	C-5062	Glue, Wood	Consumable	0.1	\$3.49	\$0.35	0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	\$0.35	Stock		1			
1		Box Bottom	Fabricated	1.00	\$0.75	\$0.75	0.50	\$30.00	\$15.00	0.50	\$40.00	\$20.00	\$35.75						
2	P-5303	Plywood, 1/8x4x12"	Purchased	0.50	\$1.49	\$0.75	0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	\$0.75	True Value Hardware	5303	1	1/8" x 4" x 12"		plywood-1/8x4x12sq
1		Game Board	Fabricated	1.00	\$2.25	\$2.25	0.50	\$30.00	\$15.00	0.50	\$20.00	\$10.00	\$27.25						
2	P-8589K81	Acrylic Sheet, 1/4"	Purchased	0.22	\$10.11	\$2.25	0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	\$2.25	McMaster	8589K81	1	12" x 12"		https://www.mcmaster.com/acrylic
1		Teflon	Fabricated	2.00	\$11.63	\$23.26	0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	\$23.26						
2	M-SLA	SLA Resin	Manufacturing ma	0.21	\$50.00	\$10.35	0.50	\$30.00	\$15.00	4.50	\$20.00	\$90.00	\$115.35	Stock	-	-		\$50/L; 207 mL used	
3	C-GLO	Gloves, Disposable	Consumable	4	\$0.07	\$0.28	0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	\$0.28	Stock	-	-	-		
3	M-SAN	Sand Paper	Manufacturing ma	1	\$1.00	\$1.00	0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	\$1.00	Stock	-	-	-		
1		Game Pieces	Fabricated	13	\$0.53	\$6.83	0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	\$6.83						
2	M-PLA	PLA Filament	Manufacturing ma	0.035	\$15.00	\$0.53	0.50	\$30.00	\$15.00	3.33	\$10.00	\$33.33	\$48.86	Stock		-	-	\$15/kg; 35g used	

\$354.11

PVT

Level	Part number	Part name	Type	Quantity	Material cost per unit	Extended material	Labor time (hours)	Labor costs	Extended labor	Machine hour	Machine costs	Extended machine	TOTAL	Supplier	Mfg part number	LT (days)	MOQ	Assumptions	Links
1	XXX	Box	assembled	1.00															
2	P-8589K81	Side panels	machined	0.50	\$6.19	\$3.10	0.00	\$30.00		0.00	\$0.00	\$0.00	\$3.10	Hardware	911570S3254	1	12" x 12"		hardware38x32x32in
2	xxx	front panel	machined																
2	xxx	bottom panel	machined																
2	C-5062	Glue, Wood	Consumable	0.1	\$3.49	\$0.35	0.00	\$30.00	\$0.00	0.00	\$0.00	\$0.00	\$0.35	Stock		1	-		
1	P-8589K81	Acrylic Sheet, 1/4"	Purchased	0.11	\$10.11	\$1.12	0.00	\$30.00	\$0.00	0.00	\$0.00	\$0.00	\$1.12	McMaster	8589K81	1	12" x 12"		https://www.mcmaster.com/psd16
1	C-UTH	Urethane Smooth Cast 300	Consumable	0.25	\$27.78	\$6.95	0.00	\$30.00	\$0.00	0.00	\$0.00	\$0.00	\$6.95	Reynolds	-	1	1.9 lb (trial)		https://www.reynoldsiam.com/product/urethane-cast-300
2	M-CUP	Cup, Mixing	Manufacturing ma	3	\$0.02	\$0.06	0.00	\$30.00	\$0.00	0.00	\$0.00	\$0.00	\$0.06	Stock	-	-	-		
2	M-STK	Stick, String	Manufacturing ma	3	\$0.02	\$0.06	0.00	\$30.00	\$0.00	0.00	\$0.00	\$0.00	\$0.06	Stock	-	-	-		
2	C-GLO	Gloves, Disposable	Consumable	0.04	\$6.99	\$0.28	0.00	\$30.00	\$0.00				\$0.28	Stock	-	-	-		