Work Breakdown Structure with Critical Path Items

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors
1		**1 DELIVERYMEDS**	**220 days**	**Tue 1/5/21**	**Wed 11/17/21**	
2						
3		**1.1 Design**	**72 days**	**Tue 1/5/21**	**Fri 4/16/21**	
4		**1.1.1 Project Mgmt.**	**71.25 days**	**Tue 1/5/21**	**Fri 4/16/21**	
5		**1.1.1.1 Client**	**71.25 days**	**Tue 1/5/21**	**Fri 4/16/21**	
6		**1.1.1.1.1 Contract**	**11 days**	**Tue 1/5/21**	**Wed 1/20/21**	
7		1.1.1.1.1.1 Identifying Scope	2 days	Tue 1/5/21	Wed 1/6/21	
8		1.1.1.1.1.2 Creating Budget	2 days	Thu 1/7/21	Fri 1/8/21	7
9		1.1.1.1.1.3 Creating Timeline	2 days	Mon 1/11/21	Tue 1/12/21	8
10		1.1.1.1.1.4 Create Indemnification/Liability Clauses	1 day	Wed 1/13/21	Wed 1/13/21	9,39,40
11		1.1.1.1.1.5 Finalize Contract	4 days	Thu 1/14/21	Wed 1/20/21	10
12		**1.1.1.1.2 Communications**	**59.25 days**	**Fri 1/22/21**	**Fri 4/16/21**	
13		**1.1.1.1.2.1 Biweekly Client Meeting**	**59.25 days**	**Fri 1/22/21**	**Fri 4/16/21**	**11**
21		**1.1.1.2 Team**	**56.25 days**	**Thu 1/21/21**	**Mon 4/12/21**	
22		**1.1.1.2.1 Staff**	**5 days**	**Thu 1/21/21**	**Wed 1/27/21**	
23		1.1.1.2.1.1 Select Team	3 days	Thu 1/21/21	Mon 1/25/21	11
24		1.1.1.2.1.2 Team Building Exercises	2 days	Tue 1/26/21	Wed 1/27/21	23
25		**1.1.1.2.2 Communications**	**49.25 days**	**Mon 2/1/21**	**Mon 4/12/21**	
37		**1.1.1.3 Project**	**3 days**	**Thu 1/7/21**	**Mon 1/11/21**	
38		**1.1.1.3.1 Risk Assessment**	**3 days**	**Thu 1/7/21**	**Mon 1/11/21**	
39		1.1.1.3.1.1 Perform Risk Register	3 days	Thu 1/7/21	Mon 1/11/21	7
40		1.1.1.3.1.2 Establish Contingency Plans	2 days	Thu 1/7/21	Fri 1/8/21	7
41		**1.1.2 Drone Requirements**	**56 days**	**Thu 1/28/21**	**Fri 4/16/21**	
42		**1.1.2.1 Permitting**	**3 days**	**Thu 1/28/21**	**Mon 2/1/21**	
43		**1.1.2.1.1 FAA**	**3 days**	**Thu 1/28/21**	**Mon 2/1/21**	
44		1.1.2.1.1.1 Regulatory Research	1 day	Thu 1/28/21	Thu 1/28/21	11,24
45		1.1.2.1.1.2 Permitting Documentation	2 days	Thu 1/28/21	Fri 1/29/21	11,24
46		1.1.2.1.1.3 Meeting with FAA Representatives	1 day	Mon 2/1/21	Mon 2/1/21	44,45
47		**1.1.2.2 Packaging**	**56 days**	**Thu 1/28/21**	**Fri 4/16/21**	
48		**1.1.2.2.1 Bubble Wrapping**	**45 days**	**Thu 1/28/21**	**Thu 4/1/21**	
49		1.1.2.2.1.1 Design Bubble Wrapping System	45 days	Thu 1/28/21	Thu 4/1/21	11,24
50		**1.1.2.2.2 Temperature Control**	**53 days**	**Thu 1/28/21**	**Tue 4/13/21**	
51		1.1.2.2.2.1 Design Temperature Control System	53 days	Thu 1/28/21	Tue 4/13/21	11,24
52		**1.1.2.2.3 Size and Weight Constraints**	**3 days**	**Wed 4/14/21**	**Fri 4/16/21**	
53		1.1.2.2.3.1 Calculate maximum size and weight allowed	3 days	Wed 4/14/21	Fri 4/16/21	49,51
54		**1.1.3 Tech**	**55 days**	**Thu 1/28/21**	**Thu 4/15/21**	
55		**1.1.3.1 App & Interface**	**20 days**	**Thu 1/28/21**	**Thu 2/25/21**	
56		**1.1.3.1.1 Design App Features**	**20 days**	**Thu 1/28/21**	**Thu 2/25/21**	
57		1.1.3.1.1.1 Customer Order Algorithm	3 days	Thu 1/28/21	Mon 2/1/21	11,24
58		1.1.3.1.1.2 Customer Preference (Delivery) Algorithm	2 days	Tue 2/2/21	Wed 2/3/21	57

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors
59		1.1.3.1.1.3 Drone Request Algorithm	2 days	Thu 2/4/21	Fri 2/5/21	58
60		1.1.3.1.1.4 Order Confirmation Algorithm	3 days	Mon 2/8/21	Wed 2/10/21	59
61		1.1.3.1.1.5 Communication with Server Algorithm	10 days	Thu 2/11/21	Thu 2/25/21	60
62		**1.1.3.2 Security**	**45 days**	**Thu 2/11/21**	**Thu 4/15/21**	
63		**1.1.3.2.1 HIPAA**	**15 days**	**Fri 2/26/21**	**Thu 3/18/21**	
64		1.1.3.2.1.1 Design Code for Customer Identity Protection	15 days	Fri 2/26/21	Thu 3/18/21	61
65		**1.1.3.2.2 Wilmont's Business Information**	**45 days**	**Thu 2/11/21**	**Thu 4/15/21**	
66		1.1.3.2.2.1 Design Algorithm for Wilmont's Business Information Protection	15 days	Fri 3/19/21	Thu 4/8/21	64
67		**1.1.3.2.2.2 Weekly Meeting with William Scott**	**45 days**	**Thu 2/11/21**	**Thu 4/15/21**	**11,24**
78		**1.2 Build**	**63 days**	**Mon 4/19/21**	**Fri 7/16/21**	
79		**1.2.1 Project Mgmt.**	**63 days**	**Mon 4/19/21**	**Fri 7/16/21**	
80		**1.2.1.1 Client**	**59 days**	**Fri 4/23/21**	**Fri 7/16/21**	
81		**1.2.1.1.1 Communications**	**59 days**	**Fri 4/23/21**	**Fri 7/16/21**	
82		**1.2.1.1.1.1 Biweekly Client Meeting**	**59 days**	**Fri 4/23/21**	**Fri 7/16/21**	**46,53,66**
90		**1.2.1.2 Team**	**62 days**	**Mon 4/19/21**	**Thu 7/15/21**	
91		**1.2.1.2.1 Managing Test Staff**	**0.5 days**	**Wed 5/5/21**	**Wed 5/5/21**	
92		**1.2.1.2.1.1 Quarterly Staff Evaluation**	**0.5 days**	**Wed 5/5/21**	**Wed 5/5/21**	**46,53,66**
94		**1.2.1.2.2 Quality Assurance**	**62 days**	**Mon 4/19/21**	**Thu 7/15/21**	
95		**1.2.1.2.2.1 Weekly Cost Analysis Report**	**59 days**	**Thu 4/22/21**	**Thu 7/15/21**	**46,53,66**
109		**1.2.1.2.2.2 Weekly Staff Meeting**	**34.25 days**	**Mon 4/19/21**	**Mon 6/7/21**	**46,53,66**
129		**1.2.1.2.3 Quality Control**	**31.13 days**	**Mon 4/19/21**	**Wed 6/2/21**	
130		**1.2.1.2.3.1 In-Progress Code Checks**	**31.13 days**	**Mon 4/19/21**	**Wed 6/2/21**	**46,53,66**
148		**1.2.2 Drone Prototype**	**63 days**	**Mon 4/19/21**	**Fri 7/16/21**	
149		**1.2.2.1 Additional Features**	**63 days**	**Mon 4/19/21**	**Fri 7/16/21**	
150		**1.2.2.1.1 Bubble Wrapping**	**25 days**	**Mon 4/19/21**	**Fri 5/21/21**	
151		1.2.2.1.1.1 Manufacture bubble wrapping parts	21 days	Mon 4/19/21	Mon 5/17/21	46,53,66
152		1.2.2.1.1.2 Install bubble wrapping parts	4 days	Tue 5/18/21	Fri 5/21/21	151
153		**1.2.2.1.2 Temperature Control**	**34 days**	**Tue 5/18/21**	**Tue 7/6/21**	
154		1.2.2.1.2.1 Manufacture temperature control parts	30 days	Tue 5/18/21	Tue 6/29/21	151
155		1.2.2.1.2.2 Install temperature control parts	4 days	Wed 6/30/21	Tue 7/6/21	154
156		**1.2.2.1.3 Drone Finishes**	**8 days**	**Wed 7/7/21**	**Fri 7/16/21**	
157		1.2.2.1.3.1 Painting prototype drones	5 days	Wed 7/7/21	Tue 7/13/21	152,155
158		1.2.2.1.3.2 Applying logos on drones	3 days	Wed 7/14/21	Fri 7/16/21	157
159		**1.2.3 App Development**	**25 days**	**Mon 4/19/21**	**Fri 5/21/21**	
160		1.2.3.1 Customer Order Coding	5 days	Mon 4/19/21	Fri 4/23/21	46,53,66
161		1.2.3.2 Customer Preference (Delivery) Coding	2 days	Mon 4/26/21	Tue 4/27/21	160
162		1.2.3.3 Drone Request Coding	5 days	Wed 4/28/21	Tue 5/4/21	161
163		1.2.3.4 Order Confirmation Coding	1 day	Wed 5/5/21	Wed 5/5/21	162
164		1.2.3.5 Communication with Server Coding	12 days	Thu 5/6/21	Fri 5/21/21	163
165		**1.2.4 Security**	**19 days**	**Mon 5/24/21**	**Fri 6/18/21**	

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors
166		1.2.4.1 Coding for Customer Identity Protection	10 days	Mon 5/24/21	Mon 6/7/21	164
167		1.2.4.2 Coding for Wilmont's Business Information Protection	9 days	Tue 6/8/21	Fri 6/18/21	166
168		**1.3 Test**	**59 days**	**Mon 7/19/21**	**Fri 10/8/21**	
169		**1.3.1 Project Mgmt.**	**54.25 days**	**Mon 7/19/21**	**Mon 10/4/21**	
170		**1.3.1.1 Client**	**49.25 days**	**Fri 7/23/21**	**Fri 10/1/21**	
171		**1.3.1.1.1 Communications**	**49.25 days**	**Fri 7/23/21**	**Fri 10/1/21**	
172		**1.3.1.1.1.1 Biweekly Client Meeting**	**49.25 days**	**Fri 7/23/21**	**Fri 10/1/21**	**158,167**
179		**1.3.1.2 Team**	**54.25 days**	**Mon 7/19/21**	**Mon 10/4/21**	
180		**1.3.1.2.1 Staff**	**0.5 days**	**Wed 8/4/21**	**Wed 8/4/21**	
181		**1.3.1.2.1.1 Quarterly Staff Evaluation**	**0.5 days**	**Wed 8/4/21**	**Wed 8/4/21**	**158,167**
183		**1.3.1.2.2 Communications**	**54.25 days**	**Mon 7/19/21**	**Mon 10/4/21**	
184		**1.3.1.2.2.1 Weekly Staff Meeting**	**54.25 days**	**Mon 7/19/21**	**Mon 10/4/21**	**158,167**
196		**1.3.2 Drone Testing**	**59 days**	**Mon 7/19/21**	**Fri 10/8/21**	
197		**1.3.2.1 Flight**	**49 days**	**Mon 7/19/21**	**Fri 9/24/21**	
198		**1.3.2.1.1 Drone Takeoff**	**15 days**	**Mon 7/19/21**	**Fri 8/6/21**	
199		1.3.2.1.1.1 Test drone takeoff at DroneTech	5 days	Mon 7/19/21	Fri 7/23/21	158,167
200		1.3.2.1.1.2 Test drone takeoff in field	10 days	Mon 7/26/21	Fri 8/6/21	199
201		**1.3.2.1.2 Weather Simulation**	**15 days**	**Mon 8/9/21**	**Fri 8/27/21**	
202		1.3.2.1.2.1 Simulate rainy & windy flight at DroneTech	10 days	Mon 8/9/21	Fri 8/20/21	200
203		1.3.2.1.2.2 Fly drone in field on rainy day	5 days	Mon 8/23/21	Fri 8/27/21	202
204		**1.3.2.1.3 Geographical Constraints**	**19 days**	**Mon 8/30/21**	**Fri 9/24/21**	
205		1.3.2.1.3.1 Flight with obstructions at DroneTech	5 days	Mon 8/30/21	Fri 9/3/21	203
206		1.3.2.1.3.2 Simulate flight in urban region of Gainesville	14 days	Tue 9/7/21	Fri 9/24/21	205
207		**1.3.2.2 Package Delivery**	**10 days**	**Mon 9/27/21**	**Fri 10/8/21**	
208		**1.3.2.2.1 Successful Delivery**	**5 days**	**Mon 9/27/21**	**Fri 10/1/21**	
209		1.3.2.2.1.1 Test flight at DroneTech, measure dropoff accuracy	5 days	Mon 9/27/21	Fri 10/1/21	206
210		**1.3.2.2.2 Integrity of Product Delivered**	**5 days**	**Mon 10/4/21**	**Fri 10/8/21**	
211		1.3.2.2.2.1 Test flight at DroneTech, investigate product integrity	5 days	Mon 10/4/21	Fri 10/8/21	209
212		**1.3.3 App Testing**	**45 days**	**Mon 7/19/21**	**Mon 9/20/21**	
213		**1.3.3.1 User Interface**	**15 days**	**Mon 7/19/21**	**Fri 8/6/21**	
214		**1.3.3.1.1 Ordering**	**5 days**	**Mon 7/19/21**	**Fri 7/23/21**	
215		1.3.3.1.1.1 Perform test order	5 days	Mon 7/19/21	Fri 7/23/21	158,167
216		**1.3.3.1.2 Drone Preference**	**5 days**	**Mon 7/26/21**	**Fri 7/30/21**	
217		1.3.3.1.2.1 Perform test drone opt-in	5 days	Mon 7/26/21	Fri 7/30/21	215
218		**1.3.3.1.3 Address Approval**	**3 days**	**Mon 8/2/21**	**Wed 8/4/21**	
219		1.3.3.1.3.1 Perform test address input	3 days	Mon 8/2/21	Wed 8/4/21	217
220		**1.3.3.1.4 Order Confirmation**	**2 days**	**Thu 8/5/21**	**Fri 8/6/21**	
221		1.3.3.1.4.1 Finish test order, receive confirmation	2 days	Thu 8/5/21	Fri 8/6/21	219
222		**1.3.3.2 Wilmont's Interface**	**30 days**	**Mon 8/9/21**	**Mon 9/20/21**	
223		1.3.3.2.1 Perform test with Wilmont's on order receival	15 days	Mon 8/9/21	Fri 8/27/21	221

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors
224		1.3.3.2.2 Perform test with Wilmont's on order transmittal	15 days	Mon 8/30/21	Mon 9/20/21	223
225		**1.4 Implement**	**26 days**	**Tue 10/12/21**	**Wed 11/17/21**	
226		**1.4.1 Project Mgmt.**	**23.25 days**	**Tue 10/12/21**	**Mon 11/15/21**	
227		**1.4.1.1 Client**	**22.25 days**	**Tue 10/12/21**	**Fri 11/12/21**	
228		**1.4.1.1.1 Communications**	**19.25 days**	**Fri 10/15/21**	**Fri 11/12/21**	
229		**1.4.1.1.1.1 Biweekly Client Meeting**	**19.25 days**	**Fri 10/15/21**	**Fri 11/12/21**	**211,224**
233		**1.4.1.1.2 Approval**	**5 days**	**Tue 10/12/21**	**Mon 10/18/21**	
234		1.4.1.1.2.1 Obtain approval of App	5 days	Tue 10/12/21	Mon 10/18/21	224,211
235		1.4.1.1.2.2 Obtain approval of Prototype Drones	5 days	Tue 10/12/21	Mon 10/18/21	224,211
236		**1.4.1.2 Team**	**19.25 days**	**Mon 10/18/21**	**Mon 11/15/21**	
237		**1.4.1.2.1 Staff**	**0.5 days**	**Wed 11/3/21**	**Wed 11/3/21**	
238		**1.4.1.2.1.1 Quarterly Staff Evaluation**	**0.5 days**	**Wed 11/3/21**	**Wed 11/3/21**	**224,211**
240		**1.4.1.2.2 Communications**	**19.25 days**	**Mon 10/18/21**	**Mon 11/15/21**	
241		**1.4.1.2.2.1 Weekly Staff Meeting**	**19.25 days**	**Mon 10/18/21**	**Mon 11/15/21**	**224,211**
247		**1.4.2 Drone Implementation**	**14 days**	**Tue 10/19/21**	**Fri 11/5/21**	
248		**1.4.2.1 Pharmacy**	**14 days**	**Tue 10/19/21**	**Fri 11/5/21**	
249		**1.4.2.1.1 Training on drone use**	**14 days**	**Tue 10/19/21**	**Fri 11/5/21**	
250		1.4.2.1.1.1 Providing prototypes to pharmacies	2 days	Tue 10/19/21	Wed 10/20/21	235
251		1.4.2.1.1.2 Briefing on drone handling	2 days	Thu 10/21/21	Fri 10/22/21	250
252		1.4.2.1.1.3 Interactive Drone Training	10 days	Mon 10/25/21	Fri 11/5/21	251
253		**1.4.2.2 Wilmont's**	**10 days**	**Tue 10/19/21**	**Mon 11/1/21**	
254		1.4.2.2.1 Provide documentation on operation of drones	1 day	Tue 10/19/21	Tue 10/19/21	235
255		1.4.2.2.2 Interactive virtual workshop on operation of drones	5 days	Thu 10/21/21	Wed 10/27/21	250,254
256		1.4.2.2.3 Providing information on repairs & maintenance	1 day	Thu 10/28/21	Thu 10/28/21	255
257		1.4.2.2.4 Interactive virtual workshops on repair & maintenance	2 days	Fri 10/29/21	Mon 11/1/21	256
258		**1.4.3 App Implementation**	**11 days**	**Tue 11/2/21**	**Wed 11/17/21**	
259		**1.4.3.1 Pharmacy Staff**	**6 days**	**Mon 11/8/21**	**Tue 11/16/21**	
260		**1.4.3.1.1 Training Pharmacy Staff on app use**	**5 days**	**Mon 11/8/21**	**Mon 11/15/21**	
261		1.4.3.1.1.1 Organizing interactive app training workshops	1 day	Mon 11/8/21	Mon 11/8/21	234,252
262		1.4.3.1.1.2 Training pharmacy staff on information transfer	4 days	Tue 11/9/21	Mon 11/15/21	261
263		**1.4.3.1.2 Provide documentation to pharmacy**	**1 day**	**Tue 11/16/21**	**Tue 11/16/21**	
264		1.4.3.1.2.1 Do's and Dont's	1 day	Tue 11/16/21	Tue 11/16/21	262
265		**1.4.3.2 Wilmont's Staff**	**11 days**	**Tue 11/2/21**	**Wed 11/17/21**	
266		**1.4.3.2.1 Training Wilmont's Staff on app use**	**6 days**	**Tue 11/2/21**	**Tue 11/9/21**	
267		1.4.3.2.1.1 Providing Wilmont staff with documentation on app operation	1 day	Tue 11/2/21	Tue 11/2/21	257,234
268		1.4.3.2.1.2 Training Wilmont's staff on information transfer to DroneTech	5 days	Wed 11/3/21	Tue 11/9/21	267
269		**1.4.3.2.2 Making Wilmont's app update available**	**1 day**	**Wed 11/17/21**	**Wed 11/17/21**	
270		1.4.3.2.2.1 Submitting final app update to App Store/Google Store.	1 day	Wed 11/17/21	Wed 11/17/21	268,264