





















| T01 Synthesizer Glove | | | |
|-----------------------|--|---|-----------------|
| ID | | Task Name | Duration |
| 0 | | T01 Synthesizer Glove | 67 days? |
| 1 | | Choose Project | 5 days |
| 2 | | Brainstorm Project Ideas | 2 days |
| 3 | | Vote top 4 ideas | 1 day |
| 4 | | Create Decision Matrix | 5 days |
| 5 | | Final Decision | 0 days |
| 6 | | Research | 5 days |
| 7 | | Microcontroller | 5 days |
| 8 | | Investigate Pulse Width Modulation | 5 days |
| 9 | | Investigate Analog/Digital Capabilities | 5 days |
| 10 | | Investigate Multitasking Capabilities | 10 days |
| 11 | | Tone Generation | 5 days |
| 12 | | Investigate Tone Gen. IC's | 5 days |
| 13 | | Investigate outputting audio with μ C | 5 days |
| 14 | | Investigate Analog tone gen | 5 days |
| 15 | | Effects | 5 days |
| 16 | | Investigate Analog Audio Manipulation | 5 days |
| 17 | | Investigate Digital Audio Manipulation | 5 days |
| 18 | | Investigate Cost | 5 days |
| 19 | | Project Proposal | 4 days |
| 20 | | Write Proposal Draft | 1 day |
| 21 | | Review Draft | 1 day |
| 22 | | Revise Draft | 0.5 days |
| 23 | | Review Revision | 1 day |
| 24 | | Submit Proposal | 0 days |
| 25 | | Manage Project Wiki | 58 days? |
| 26 | | Design Requirements | 7 days |
| 27 | | Write Draft | 1 day |
| 28 | | Review Draft | 1 day |
| 29 | | Revise Draft | 1 day? |
| 30 | | Review Revision | 1 day |
| 31 | | Submit Requirements | 0 days |
| 32 | | Preliminary Schematic | 3 days |
| 33 | | Design Circuit Block Diagram | 0.5 days |
| 34 | | Select Parts | 0.5 days |
| 35 | | Create Parts Libraries | 0.25 days |
| 36 | | Create Schematic in Eagle | 0.5 days |
| 37 | | Review ERC errors | 0.25 days |
| 38 | | Revise | 0.5 days |
| 39 | | Review Revision | 0.5 days |
| 40 | | Submit Schematic | 0 days |
| 41 | | Wire glove with buttons | 1 day? |
| 42 | | Preliminary Board Layout | 8 days |
| 43 | | Arrange board in Eagle | 0.5 days |
| 44 | | Route the board | 0.5 days |

T01 Synthesizer Glove

| ID | Task Name | Duration |
|----|---|----------------|
| 45 | Check for errors | 0.25 days |
| 46 | Review board | 0.25 days |
| 47 | Review Revision | 0.5 days |
| 48 | Submit layout | 0 days |
| 49 | Prototype Board | 13 days |
| 50 | Arrange single sided prototype board | 0.5 days |
| 51 | Route prototype board | 0.5 days |
| 52 | Check for errors | 0.25 days |
| 53 | Revise for errors | 0.25 days |
| 54 | Review Revision | 0.25 days |
| 55 | Generate gerber files | 0.25 days |
| 56 | Print board and assemble | 1 day |
| 57 | Begin using prototype board | 0 days |
| 58 | Project Schedule | 8 days |
| 59 | Determine necessary milestones | 0.5 days |
| 60 | Evaluate and set deadlines | 0.5 days |
| 61 | Create project schedule | 0.5 days |
| 62 | Review Project Schedule | 0.5 days |
| 63 | Revise Schedule | 0.5 days |
| 64 | Review Revision | 0.5 days |
| 65 | Submit schedule | 0 days |
| 66 | Send PCB files to vendor | 6 days |
| 67 | Add final amp to board | 1 day? |
| 68 | Complete Final Schematic | 1 day? |
| 69 | Complete Final Layout | 1 day? |
| 70 | Peer review layout | 0.5 days |
| 71 | Generate gerber files | 0.25 days |
| 72 | Send CAM files to OSH Park | 0 days |
| 73 | System Diagram | 7 days |
| 74 | Draw Level 0 block diagram | 1 day |
| 75 | Draw Level 1 block diagram | 0.5 days |
| 76 | Draw Level 0 block diagrams for each Level 1 subcomponent | 0.5 days |
| 77 | Review diagrams | 0.5 days |
| 78 | Revise Diagrams | 0.5 days |
| 79 | Review Revision | 1 day |
| 80 | Submit System Diagram | 0 days |
| 81 | Program Microcontroller | 27 days |
| 82 | Develop algorithm based on design decisions | 2 days |
| 83 | Verify algorithm | 1 day |
| 84 | Program algorithm | 24 days |
| 85 | Generate single PWM tone | 3 days |
| 86 | Generate multiple tones with various button combinations | 5 days |
| 87 | Incorporate ADC input | 5 days |
| 88 | Finalize code | 5 days |
| 89 | Test Program | 2 days |

T01 Synthesizer Glove

| ID | | Task Name | Duration |
|-----|---|--------------------------------|----------------|
| 90 |  | Debug | 2 days |
| 91 |  | Verify | 0 days |
| 92 | | Test Plan | 8 days |
| 93 |   | Design test cases | 0.5 days |
| 94 |   | Implement cases into test plan | 0.5 days |
| 95 |  | Submit test plan | 0 days |
| 96 | | Build Housing | 1 day |
| 97 |  | Design Housing | 0.5 days |
| 98 |  | Laser cut or 3D print design | 0.5 days |
| 99 | | Working Prototype | 14 days |
| 100 | | Assemble PCB | 5 days |
| 101 |  | Solder parts to board | 1.5 days |
| 102 |  | Check connections | 0.25 days |
| 103 |  | Debug | 0.25 days |
| 104 | | Verify | 0 days |
| 105 |   | Confirm board functionality | 1 day |
| 106 |  | Make adjustments/debug | 1 day |
| 107 | | Verify | 0 days |
| 108 |   | Assemble parts | 1 day |
| 109 |  | Test Prototype using test plan | 1 day |
| 110 |  | Debug | 1 day |
| 111 |  | Verify | 0 days |
| 112 | | Demo | 0 days |

| T01 Synthesizer Glove | Predecessors | Resource Names |
|-----------------------|--------------|----------------------------------|
| | | |
| | | |
| | | Ali,Nicholas,Nathan,Steve |
| 2 | | Ali,Nathan,Nicholas,Steve |
| 3 | | Ali,Nathan,Nicholas,Steve |
| 4 | | Ali,Nathan,Nicholas,Steve |
| | | |
| | | Ali,Nathan,Nicholas,Steve |
| | | |
| | | |
| | | Ali,Nathan,Nicholas,Steve |
| | | Nicholas |
| | | Steve |
| | | Nathan |
| | | Ali,Nathan,Nicholas,Steve |
| | | |
| | | |
| | | Ali,Nathan,Nicholas,Steve |
| 5 | | |
| | | Nathan |
| 20 | | Ali,Nathan,Nicholas,Steve |
| 21 | | Nathan,Nicholas |
| 22 | | Ali,Nathan,Nicholas,Steve |
| 23 | | Nathan |
| | | Nathan,Nicholas,Ali |
| 24 | | |
| | | Ali,Nicholas |
| 27 | | Nathan |
| 28 | | Nathan |
| 29 | | Ali,Nathan,Nicholas |
| 30 | | Nathan |
| 31 | | |
| | | Ali,Nathan,Nicholas,Steve |
| 33 | | Ali,Nathan,Nicholas,Steve |
| 34 | | Nicholas |
| 35 | | Nicholas |
| 36 | | Nicholas |
| 37 | | Nathan,Nicholas |
| 38 | | Nathan,Nicholas |
| 39 | | Nathan |
| | | Nathan,Nicholas,Steve |
| 40 | | |
| | | Nicholas |
| 43 | | Nicholas |

| T01 Synthesizer Glove | |
|-----------------------|--|
| Predecessors | Resource Names |
| 44 | Nicholas |
| 45 | Nathan |
| 46 | Nicholas |
| 47 | Nicholas |
| 40 | |
| | Ali,Nicholas |
| 50 | Nicholas |
| 51 | Nicholas |
| 52 | Nicholas |
| 53 | Ali,Nathan,Nicholas |
| 54 | Nicholas |
| 55 | Ali,Nicholas,Money,PCB Machine,board mat |
| | |
| | |
| | Ali,Nathan |
| 59 | Ali,Nathan,Nicholas,Steve |
| 60 | Ali |
| 61 | Ali,Nathan |
| 62 | Ali |
| 63 | Ali,Nathan |
| 64 | Nathan |
| 48 | |
| | Nathan |
| | Nathan,Nicholas |
| 68 | Nathan,Nicholas |
| 69 | Class peers |
| 70 | Nicholas,Nathan |
| 71 | Nicholas |
| | |
| | Nathan,Nicholas |
| 74 | Ali,Nicholas,Nathan |
| 75 | Nathan,Nicholas,Ali |
| 76 | Ali,Nathan,Nicholas |
| 77 | Ali,Nathan |
| 78 | Ali,Nathan,Nicholas,Steve |
| 79 | |
| 40 | |
| | Ali,Nathan,Nicholas,Steve |
| 82 | Steve |
| 83 | Steve |
| | Steve |
| 85 | Steve |
| 86 | Steve |
| 87 | Steve |
| 57 | Steve |

| T01 Synthesizer Glove | |
|-----------------------|---------------------------|
| Predecessors | Resource Names |
| 89 | Steve |
| 90 | Ali,Nathan,Nicholas,Steve |
| | Ali,Nathan,Nicholas,Steve |
| 93 | Ali,Nathan,Nicholas,Steve |
| 94 | |
| | Ali,Nathan,Nicholas |
| | Ali,Nathan,Nicholas |
| 80,72,91,95 | |
| | Ali,Nicholas |
| 101 | Ali,Nicholas |
| 102 | Ali,Nathan,Nicholas |
| 103 | |
| 104 | Ali,Nathan,Nicholas,Steve |
| 105 | Ali,Nathan,Nicholas,Steve |
| 106 | |
| | Ali,Nathan,Nicholas,Steve |
| 108 | Ali,Nathan,Nicholas,Steve |
| 109 | Ali,Nathan,Nicholas,Steve |
| 110 | |
| 99 | Ali,Nathan,Nicholas,Steve |