T01 Requirements Document Rev.1

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## October 24, 2014

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| **Marketing**  **Requirements** | **Engineering Requirements** | **Justification** |
| 4,7 | 1. System will be capable of producing tones based on finger contact | Tone generation by finger contact is intuitive and typical for musical instruments |
| 2 | 1. System must be wearable on users hand/forearm | Placing the system on the hand makes it accessible and easy to use |
| 3 | 1. System will be internally powered and have power consumption < 1 Watt | This makes the system realizable with a pair of 9 volt batteries, which are ubiquitous and cheap |
| 4 | 1. System will be capable of altering the produced tones based on the status of at least 2 knobs/sliders/buttons | Knobs/sliders/buttons are intuitive |
| 1 | 1. System will use Digital to Analog conversion at a resolution < 12 bits. | That “classic” 8-bit sound requires low sampling rates |
| 6 | 1. System will be capable of producing >= 5 frequencies | With one frequency per finger, this provides a unique frequency for each fingertip. |
| **Marketing Requirements**   1. The system should have low resolution audio output 2. The system should be wearable and portable 3. The system will have low power consumption 4. The system will be intuitively controlled 5. The system will be capable of adding audio effects to the tones that it generates 6. The system will be capable of producing a variety of tones 7. The system will be capable of being “played” on a variety of solid surfaces | | |

At least 1 effect

A “low power requirement”