the H.A.R.E project

A Programmable Musical Instrument Effect Pedal

4x Assignable Potentiometers

9V DC Jack

Rear USB Com Port

Internal Circuitry:

- MCU capable of real-time DSP
- Additional external memory (~512 kB)
- Analog voltage controlled amplifier
- USB communications port

1/4" Audio Input/Output Jacks

Hammond 1590BB Enclosure
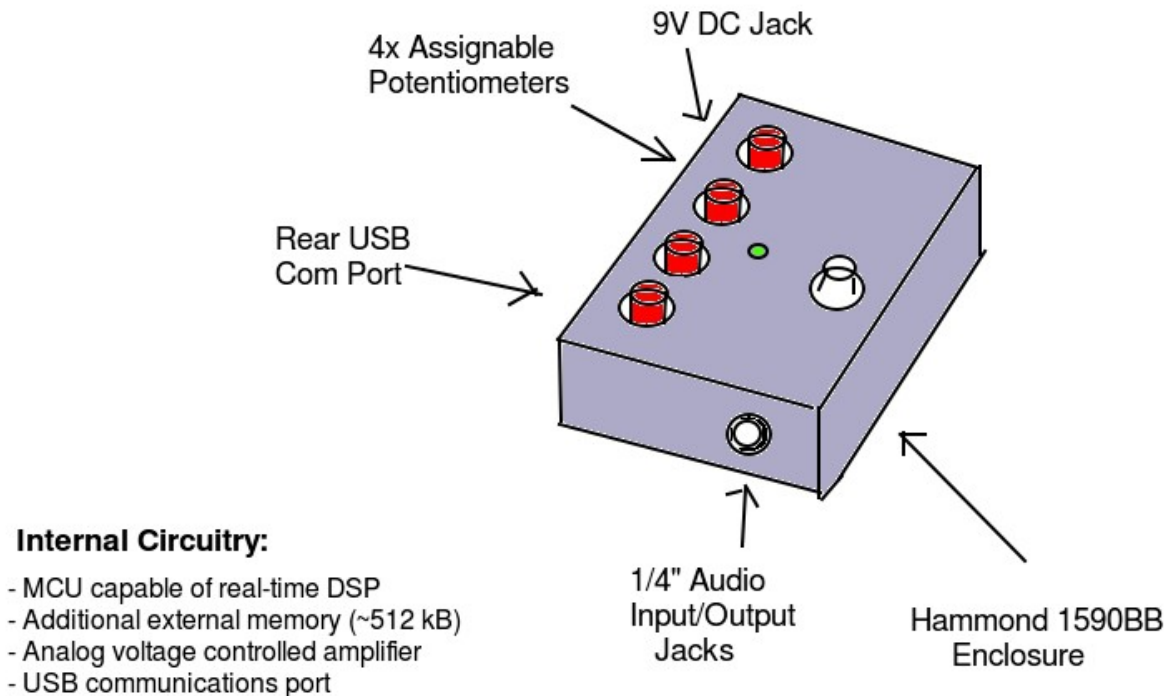
Key Features:

- No confusing and complicated digital menus
- User can choose desired effect and upload via USB from a personal computer
- Simple interface eliminates steep learning curve
- Musicians with programming skills can create their own effects

Work Plan:

Milestone	ETC
Develop a working prototype	3-6 months
Design units for small, beta production runs	6-9 months
Start developing an online community and user upload program	9-13 months
Offer beta production units to community members	13-16 months
Develop additional effects programs	Ongoing
Gather feedback and begin development on 1.0 units	16-19 months

*NOTE: Time estimates are subject to overlap

Budget Summary:

Item	Cost
Prototype parts and development boards	$100-150 per unit
Beta production runs	$75-125 per unit

Additional Resources:

- Automation for enclosure drilling (drill press, laser cutter, etc.)

Team Members:

- Zachary Clark-Williams (Digital Hardware Design)
- Abram Morphew (Analog/Digital Interfacing)
- Travis Berger (DSP Implementation)
- Joe Hamaker (Product Testing)

Contact Information:

Abram Morphew
em: morphew@pdx.edu
ph: 971.302.0741