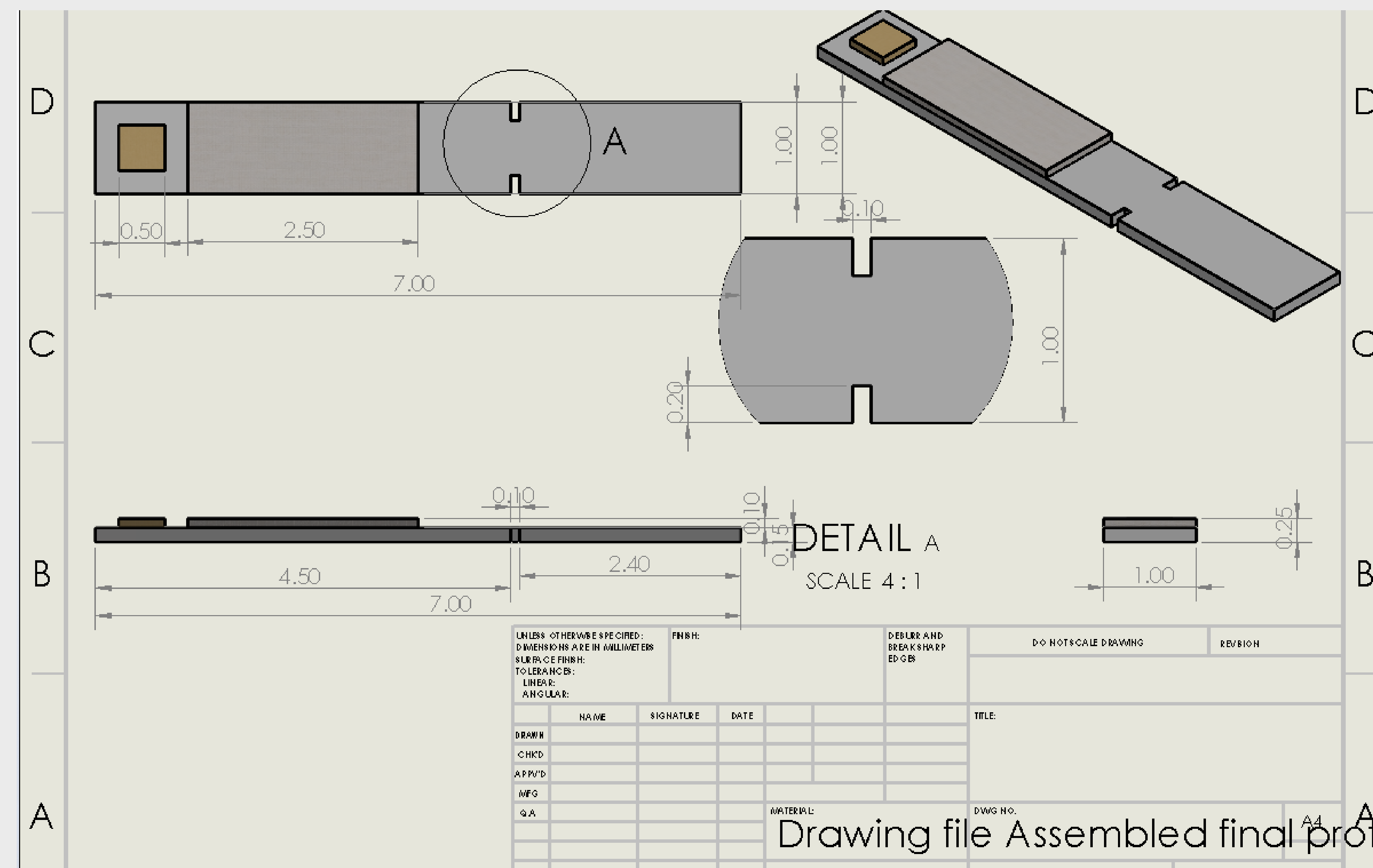


THE PROBLEM

- According to the Center of Disease Control, there were approximately 2.5 million reported cases of Sexually Transmitted Infections in the United States
- Many cases of STIs go untested and untreated, leading to an increase of spreading around the country
- The inconvenience of getting tested discourages many from doing so, leading to even more undiagnosed sexually transmitted infections being spread
- Current solutions to the problem require a test to be sent to a lab for results, which can take multiple days to weeks
- Other products that are already on the market are very expensive, which can also discourage people from purchasing the test

AT-HOME STD/UTI PRE-SCREENING DEVICE

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THE SOLUTION

Our product is an at home UTI test that detects bacteria in CFU/mL, as well as leukocytes. High bacteria/white blood cell levels in the urinary tract indicate an infection, which could be indicative of a STI or UTI.

To use our product, the test is first removed from the packaging, exposing the testing assay. The user then begins to urinate, and midstream urinates on the exposed strip until completely covered. Once the user is finished urinating, they can insert the strip in the provided plastic bag, and using their other hand break off the handle by bending the strip back and forth. Once sealing the bag, the sample can be left at room temperature in a dark environment. The leukocyte esterase test results will only take minutes, while the brain heart infusion bacteria test will display results in up to 48 hours.

DESIGN FEATURES

- Sleek, discrete, handheld design that can fit inside a pocket
- Testing assay that tests for bacteria in the urine, as well as a presence of leukocytes
- Easily detachable handle that allows for the user to incubate the testing assay in the provided bag without contaminating the user or the urine sample

THE PROCESS

- E.coli was added to a urine sample, and through serial dilutions allowed us to have multiple urine samples of varying concentrations of bacteria
- Testing assay was dipped into these various concentrations to test validity of test strips
- Urine samples were plated to confirm the results of bacteria concentrations on the test strips
- Results were compared against a water control to ensure the test strips worked the same for both water and urine
- A test was performed on the handle under a sink to determine the test was strong enough to withstand a urinary stream, and more
- A test regarding the strength of the connection between the handle and test assay was performed to ensure the test would not be damaged from basic shipping and handling, or user drops

