WHO WE ARE

♥ VALUES

Although we stand before you today as one team we would like you to remember us as a group of individuals united by our common values and universal desire to leave the world better than we found it. In the beginning of Praxis, we found that Social Justice wasn't only a fundamental principle but a key aspect we hoped to integrate into our work. When we selected the RFP we were originally looking for something which would enable us to align our core values and beliefs with the project at hand. We just never imagined we'd be so lucky.

▶ BACKGROUND

The Annex Chess Club presented an unexpected opportunity for our team to reinforce our core values throughout the semester. The Chance to help improve the lives of chess players experiencing a situational disablement in their dominant hand was one we all jumped at. To develop a system so these players could record they're moves and thereby return to game play in tournaments was a challenge we excitedly uptook. After several rounds of interactive designs we are proud to recommend TACTI. A wearable device which players can use to automatically track they're moves without the challenge of pen and paper.

REQUIREMENTS

From our objectives we realized there were three major themes which could be taken into account and measured in order to determine the validity of the device.

Non Dominant hand
The Design must be able to record moves without the usage of the player's dominant hand.

Less than three seconds to assimilate
The Device cannot take longer than three seconds to record the move into its hardware. As it should take the same amount of time or better than a human to complete the task.

Operational for more than eight hours
Given that a player could be subject to playing a maximum of six hours per day on tournament the device must be operational during that time frame. Hence why the requirement is mandated at eight hours, enabling the user a spare two hours just in case matches are delayed.

NEXT STEPS

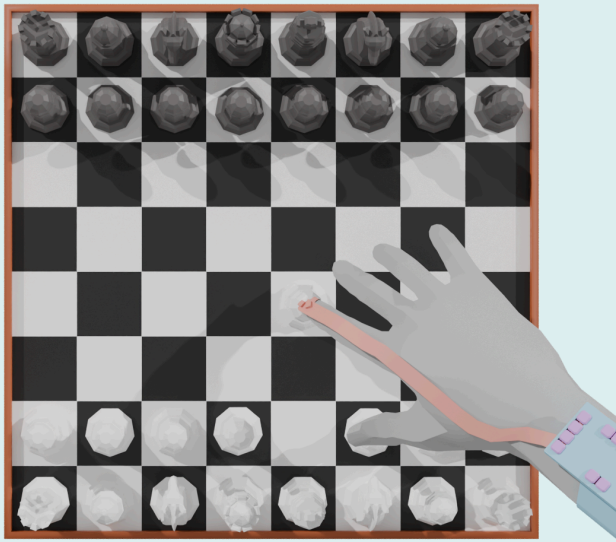
Before it becomes operational, several more validation and verification tests are needed. These tests are aimed to enhance the performance of the communication between TACTI and the receiver in order to improve the time it takes to display the information at hand.

Demographic Verification and Validation Tests
Although our Praxis testing community of Heart House was incredible to work with, it's highly condensed with a student demographic making it difficult to test if this is a valid design for both elderly and young stakeholders. Therefore further testing with these demographics are needed in order to determine its validity.

Timed trial
Although TACTI has been maintaining its battery life, we want to further test it in order to determine the time range the glove can work for without difficulty consistently.

TACTI

Touch-Augmented Chess Recording Interface



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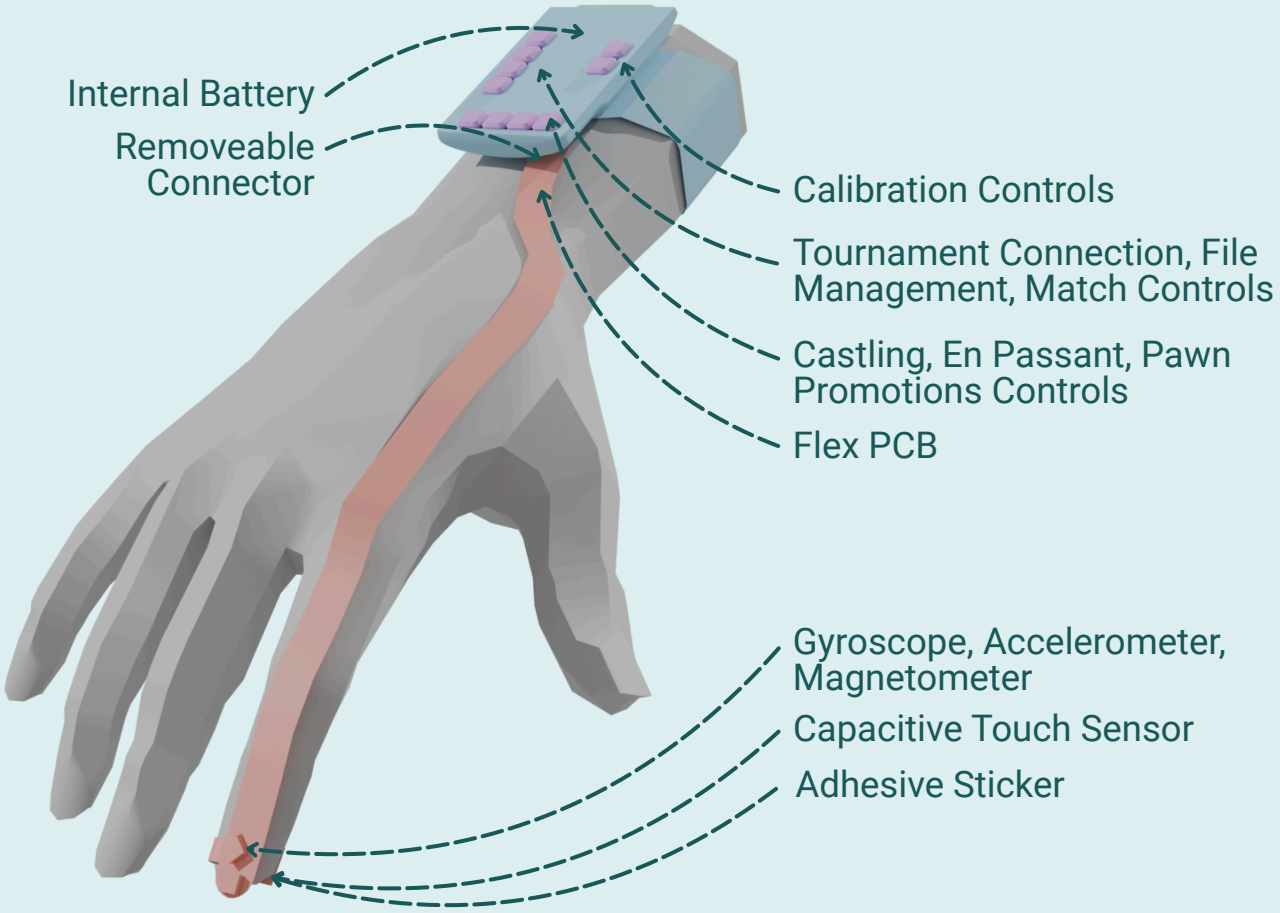

OBJECTIVES

Ease of use: the design must be user friendly and easy to operate for both the player and arbitrator.
Long lasting- TACTI must be able to last the duration of a tournament day without charge

Quick assimilation time: Since the Scoresheets need to be available to the arbitrator at all times the device must have a fast set up time.

Unobtrusive: The device must not obstruct the players in any way as Fide regulations mandate the space of the players remain unobscured.

Fast set up: Should not take time out of the players match in order to set up. Nor should it inhibit the timing of the next match to dismantle.

KEY DESIGN DECISIONS

DEMOGRAPHICS

We decided to focus on human wearable technology in contrast to systems such as a phone app or digitized system; due to the demographics which would be interacting and FIDE regulation 12.3. Due to individuals having different skill levels regarding they're capabilities to use modern technology we decided that something wearable would be best to reduce any age barrier a potential solution may have on a demographic as it is minimally invasive to the "workflow" of chess. Furthermore FIDE's Regulations on the introduction of devices such as phones into space are strict. Therefore in order to prevent a player from being disqualified we found this would be an optimal solution.

MIRCOCONTROLLER PLACEMENT

Although micro controllers are small we decided to have a capsule which is to be stored located on the stakeholders wrist in order to introduce a vestibule which contains a battery. This decision is critical to ensure the device has the capacity to stay working for 8 hours in order to last throughout a full tournament. As the player can be required to play up to but no longer than 6 hours per day.

EDGE CASES

Throughout this project we came to realize that we could eliminate the need for the user to write their moves manually. Although this is a seemingly obvious decision when regarding the issue of how to record chess moves we realized that having a wearable glove design with something such as TACTI could be expanded not only to people who don't have access to they're dominant hand but those affected by nervous system diseases such as Parkinson's as well.