LOCUS X BHOOS PRESENTS

# SMART BOTS

## CODING CHALLENGE

# PROPOSAL

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# A Brief Overview

Smart Bots is a Coding Challenge organized by Bhoos Games in collaboration with [LOCUS](#) with the vision to encourage tech enthusiasts to showcase their skills.

The challenge is to build the best CallBreak game bot from scratch. CallBreak is not just a card game; it is a dynamic game of strategies and skills. Moreover, CallBreak is an emotion that connects families and generations

We organized this competition to create an environment in which the best programmers can come together to have fun.

# Prizes

1st Prize: Rs. 5 lakhs

2nd Prize: Rs. 3 lakhs

3rd Prize: Rs. 2 lakhs

# Eligibility Criteria

- Nepali citizens are eligible to join the competition.
- People are not restricted by age or exam scores.
- People working at Bhoos Games and their relatives are not eligible for the competition.

# Code of Conduct

- If any fraudulent activities are detected at any phase of the game, the team will be disqualified.
- We have every right in the competition to select a winner, disqualify participants with reasons that may not be listed here but may be discovered later.

We hold every right to cancel the competition without notice and without disclosing the reason.

# Road Map

### Registration Opens:  Feb 12, 2022

The registration form would ask for basic information about the team. Participants can take part as an individual or a team of two.

### Registration Closes:  Apr 1, 2022

After the registration closes, we will not be entertaining any team entries. However, each team will receive a team profile dashboard to keep track of everything. All the essential technical specifications and resources will be provided in our discord server and also in the team's dashboard.

### Preparation and Qualifiers:  Apr 1, 2022 -  Jun 5, 2022

Once the qualifier starts, the participants can start building their bot and test it on our sandbox. After they are confident in their bot performance, the participants can submit their bot by uploading a docker image in our dashboard.

On the docker submission page, the participants can view the current status of their submission.  On each submission, the user rank is also calculated and their position on their leaderboard is also updated accordingly.

The participants can also view the game data related to each submission on the Game History page.

## Screening Sudo: Jun 6, 2022 - Jun 10, 2022

The top 8 leaderboard champions would go through a small detection where questions and algorithms related to the development would be asked and tested. This process is to minimize corruption and respect actual hard workers.

## The Finale: Jun 12, 2022

In the final stage of the challenge, the top 8 screened bots will challenge each other.

# Preparation

### 1.  Building a CallBreak Bot

Participants can use any language/ framework/ library of their choice.

#### Basic Requirements

- Response Time: The bot will be allocated a total of 1500ms for a round of 13 turns. This is the total time budget allocated to the bot for that round. If the bot runs out of budget before 13 turns are over, the bot will be penalized.
- Docker Image: The programmer must submit a docker image of their bot. The docker image must follow our API guidelines and adhere to the "Response Time" criteria.

### 2. Team Profile

- When the registration closes, the team will receive login credentials which will lead to the dashboard.
- Team profile will contain everything; team information, link to valuable resources, guidelines, FAQs, code of conduct.
- The dashboard also maintains a history of games that the code played; hence a team can replay any of their game.
- The team dashboard will show game statistics, where a team lost or won, and many more.
- One of the most crucial factors of the dashboard is the leaderboard; it will be updated daily and show ranks according to the bot's score.

## 2. Docker Image Submission

The team MUST submit their docker image by uploading it on the "Docker Submission" page.

### Sandbox

- Upload the code here, test the bot beforehand, creating fewer mishaps in the qualifier round.
- It will help a team check
  - if code hits our server
  - if code has any major or minor bugs
  - If code fulfills our API requirements
- It will give an idea of how the actual gameplay would look.

### Final Docker Submission

Once the code (bot) seems perfect, the team can upload it under the "Docker Submission" page. Once the code is uploaded, it will run for rankings. Refined and modified docker image can be re-uploaded under the same page.

# Qualifiers

Once the docker image is submitted through Rank Mode they enter Qualifiers. However, codes can still be updated here.

## 1. Ranking

In the qualification round, the team's bot will play against Bhoos' bots, and the result is used to score the team's bot. We will spawn 2 of the team's bots (same docker image) and 2 of Bhoos bots and place them alternatively on the Call Break table.

**Scoring mechanism:**

- The team that will win the game is awarded 5 points and 0 for losing.
- If the team's bot cannot respond within the time limit or provide an invalid move, the bot is disqualified and treated as the team's loss.
- Initially, 200 games are played and the score is the sum (or the average) of the team's scores against our bot.
- As the qualifier round progresses and bots get better at playing, the number of games played will increase linearly to alleviate card distribution's randomness. And then, after the qualifier round concludes, the top 8 participants will be selected for "The Finale".

For "The Finale", the top 8 participants will battle each other and then the top 3 highest scorers will be selected as winners. The details will be provided later as the qualifier round progresses.

## 2. Leaderboard

- The leaderboard will be visible in the dashboard.
- The leaderboard will contain the team name, rank, games played, and a total aggregate score of a particular team.

## 3. Game Viewer

- This can track the bot's performance.
- It will record every game that a team's bot(code) has played.

# Screening Sudo

This becomes essential to conduct to ensure that the codes and algorithms used are well understood. Hence, the top 8 leaderboard champions will have to go through a short detection mechanism.

Having said that, participants can use the internet to research algorithms and other vital necessities. Any sort of plagiarism, dishonesty or other fraudulent activities might lead to the disqualification of the team.

**May the best team win!**

We highly encourage participants to join our discord server (Smart Bots) for event updates, discussion, and support.

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