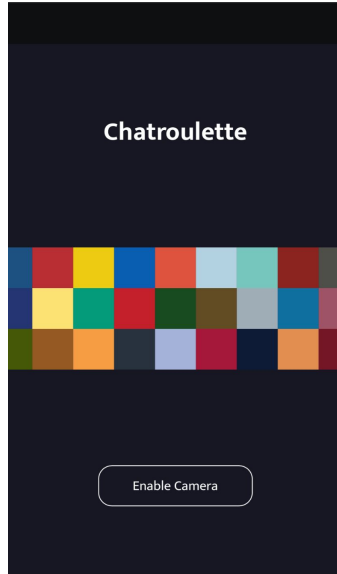
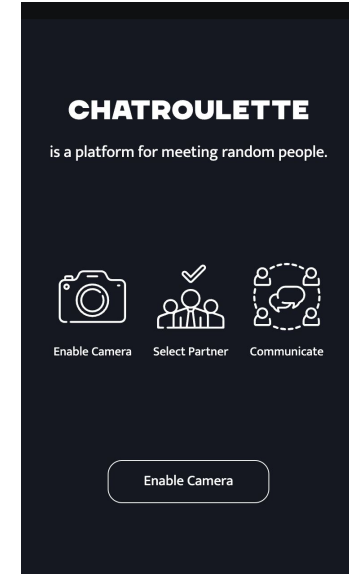


Industry thesis – User flow optimization at Chatroulette.



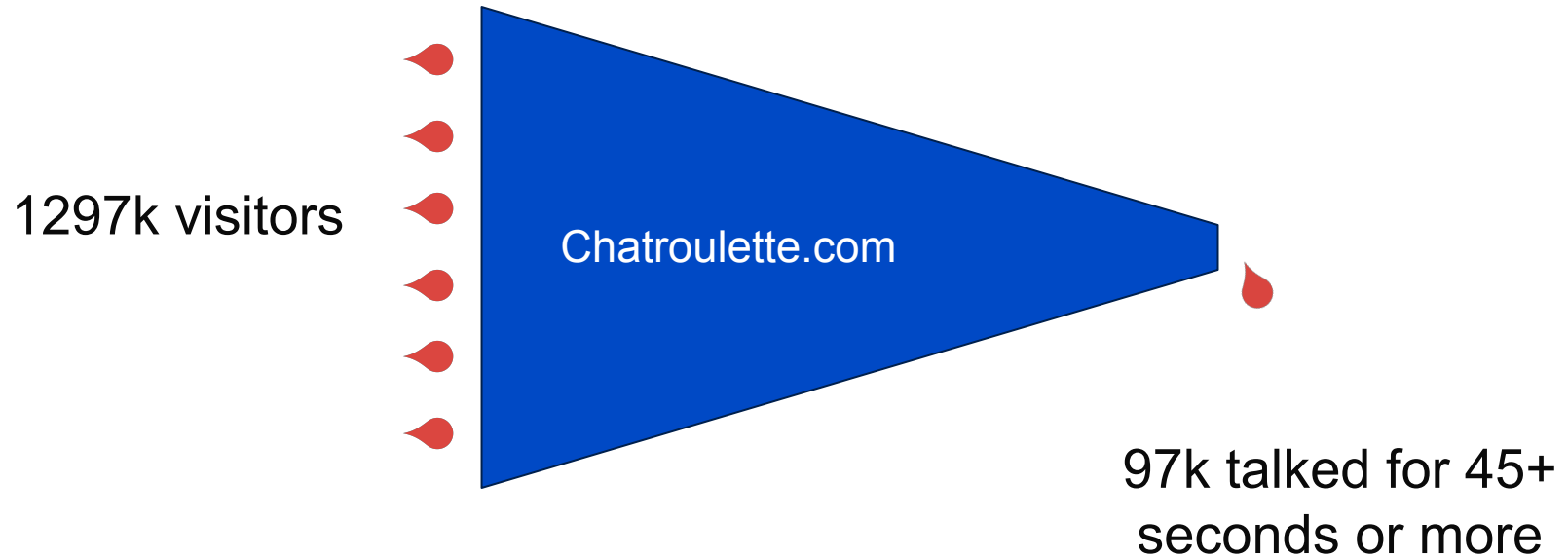
About
1 objective
3 sources of innovation
4 proposals with evaluation
—
1 summary report
5+ future steps



by Ivan Glushenkov | Manuel Oriol | Chatroulette team

Objective

March 2022



Objective

March 2022

50 ppl party

-8 walked away 🚪

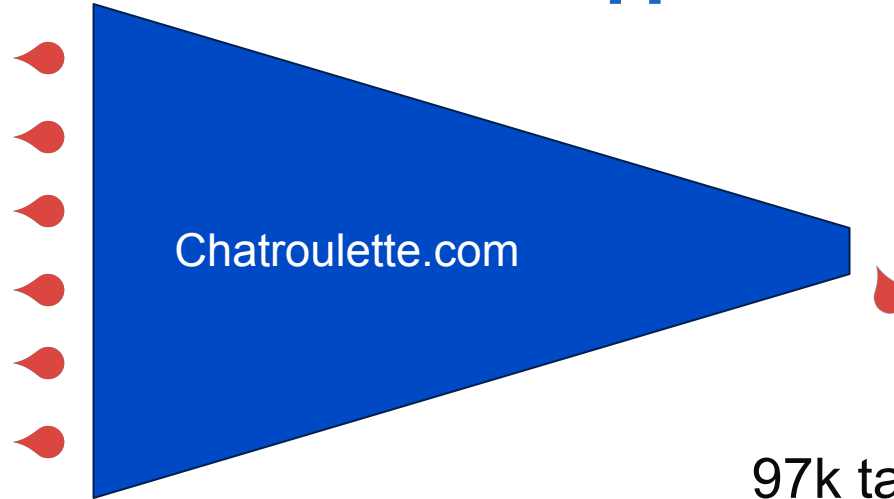
-12 walked away 🚪

30 started looking for a partner 👁️

13 found a partner 👤👤

4 talked for 45s+ 🗣️🗣️

1297k visitors

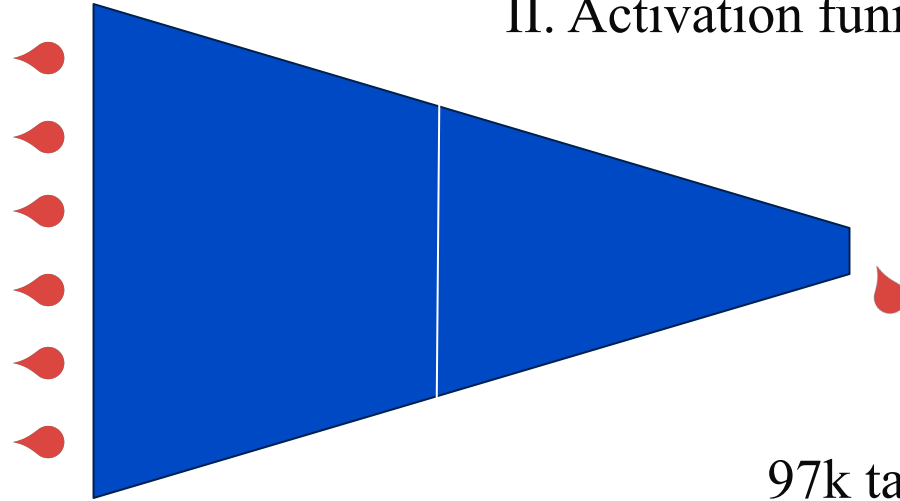


97k talked for 45+
seconds or more

I. Acquisition funnel

II. Activation funnel

1297k visitors

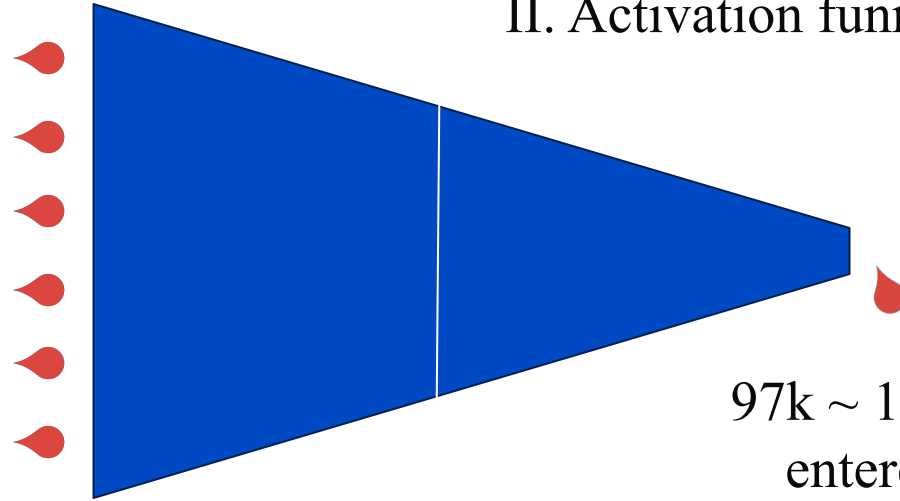


97k talked for 45+
seconds or more

I. Acquisition funnel

II. Activation funnel

1297k visitors
• 81.6% are new



97k ~ 12.2% of those, who
entered the Activation
funnel

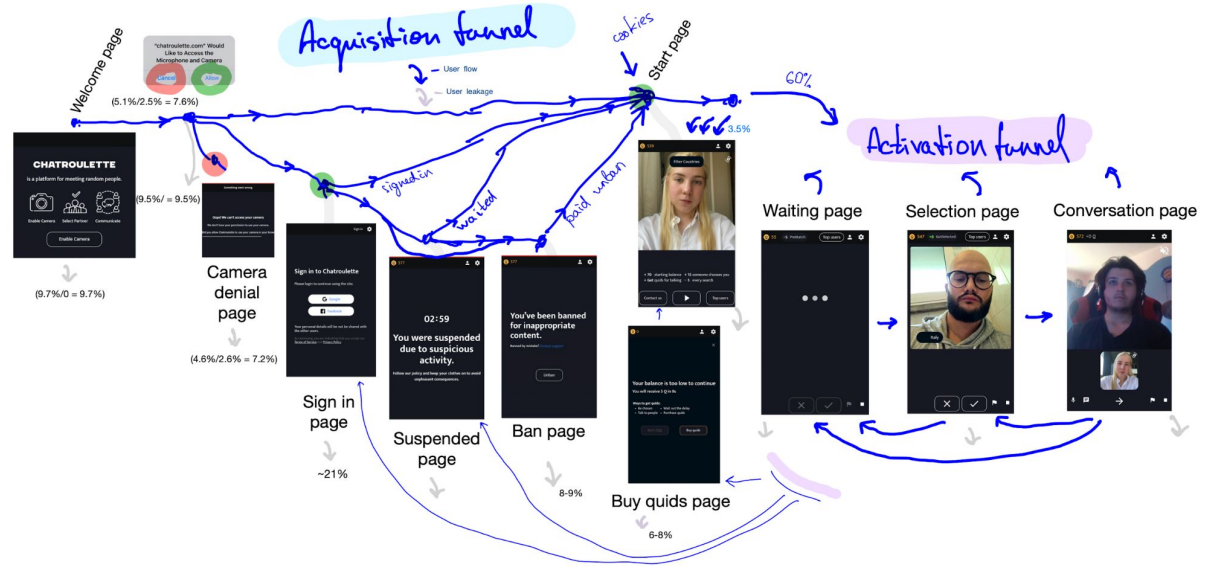
Objective

I. Acquisition funnel

- Welcome page
- Camera denial page
- Sign in page
- Suspended/Ban pages
- Start page

II. Activation funnel

- Waiting page
- Selection page
- Conversation page



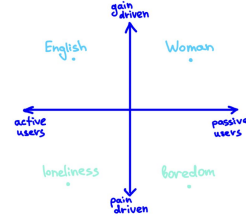
User flow visualization

Solution

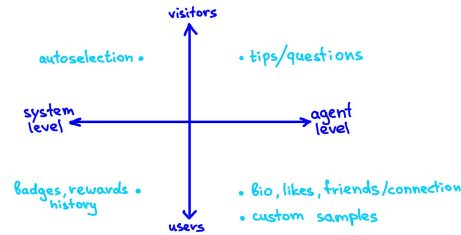
I. Research

- Practice research
- Competitors review
- State of the art analysis

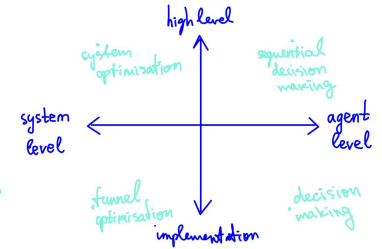
Platform Applications



Features

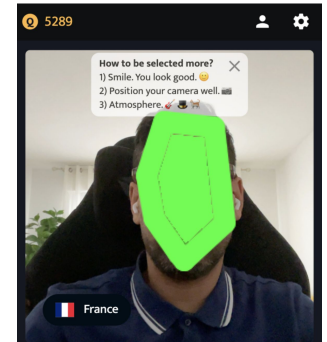
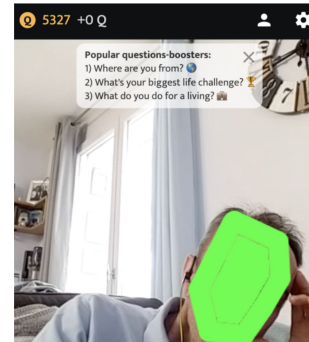
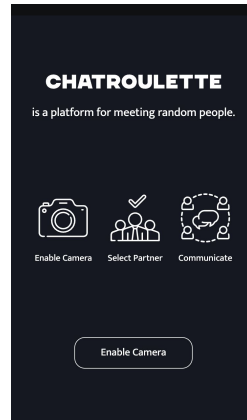


State of the Art



II. Development

- Welcome page update
- Selection page update
- Conversation page update
- Matching mechanics update
- Tracking system update



Solution

I. Research

- Practice research
 - 20+ Stakeholders interviews
 - 100+ Users interviews

first time based	no	yes	yes	yes	no	no	yes	yes	no	no	yes	no	yes	yes	yes	no	third	yes	no	no
answer	study and practice	improving social skills, practice language	talk, just click	practise language	listening with people	boring	listening songs	practise language	boring	communication	gifts and communication	making friends	gifts and communication	for school	boring	interesting	spending time	practice English	risk took for spending free	meeting new people
gender	M	M	M	M	F	F	M	M	M	M	M	F	M	M	M	M	M	F	F	M
first time based	yes	no, many times	yes	no	no	no	yes	third	second	no	no	yes	no	no	yes	no	yes	yes	yes	no
answer	talk with people	talk with people	drink, bored	11 english 21 talking 41 woman	1 making friends	just talking with people	practise English, communicate with people	interesting	talking with people, talking things	talking with people, laughing	why not?	talking with people	talking with people	laughing at people, talking	communication, practice	girls, study	communication	girls, talking with people	activity for	meeting, talking with people, practice social skills
gender	M	M	M	M	F	M	F	M	M	M	F	M	M	M	M	M	M	F	F	M
first time based	second	yes	yes	no	second	no	no	no	no	no	no	yes	no	second	no	no	no	no	no	yes
answer	just talking and making friend	practise language and social language	talking with people and practice language	looking for people from her city	interesting	nothing, spend time	he is horny	train English	spend time	boring	take scam	interesting	interesting	interesting	English	ending interesting	want to find interesting	practise English	English, spending time	for fun and communication
gender	F	M	M	F	M	F	M	F	M	M	M	M	M	M	M	M	M	F	M	M
first time based	no	no	yes	yes	yes	yes	yes	yes	no	no	no	yes	yes	no	yes	no	third	yes	yes	no
answer	communication	boys and communication	talking	girls and communication	girls and communication	improving English	improving people	talking with girls and spending free time	communication	only	relax	drink also	girls and communication	meeting new people	it was interesting	drawing and	it is interesting	talking with people	talking with people	talking with people
gender	F	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
first time based	yes	no	no	yes	yes	no	yes	no	yes	no	yes	no	yes	yes	yes	yes	no	no	no	no
answer	boring	boring	meeting new people	study and practice language	talking with people	talking with people and feeling girlfriend	relaxing and spending time	online pub (drink alcohol)	for fun, talking with people	communication	finding friends	she was boring	practise language	it was interesting	it was interesting	ask people about my photo (Did I look like a Korean or a know what did I look like?)	talking with people	for fun and practicing my sense of humor	boring, spending time	friends or girls
gender	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M

Selection stage

Why do people select partners in pre-matches?

- Nice appearance (or **lookmen**)
- Want to talk.
- Need guide.
- Want to feel generous and enjoy spending and power.
- Automatic reaction for people with high openness or negative reference points (that are more ready to risk).
- Autoselection.
- Timeout.
- Bug.
- Misunderstood the functionality.

Why do people reject partners in pre-matches?

- Interesting reasons.
- They saw +15 GotSelected, upgraded their reference point for this decision, changed their strategy to loss (time) aversion and skipped to maximise future EEU in the next sequential decision making batch. It is of great interest how interesting it's very interesting how people who came up with this observation changed their behaviour.
 - Angry because of a previous rejection from talk.
- Obvious reasons.
- A match with their bullshit threshold (**not a girl**, not nice appearance, personal preferences, suspicious camera position)
 - Threshold can be constructed via-positiva (I want something specific, everything else is not interesting) – dedicated users.
 - Or via-negativa (I don't want scary content, I'm open to anything else) – open to new experience users.
 - Unconscious momentum.
 - Rejection makes me feel power, makes me feel in control. (They get some value.)
 - Bug.
 - Misunderstood the functionality.

Why do people leave the selection/rejection stage?

- Leave the website
 - Bored
 - Tired
 - Long time/amount of unsuccessful pre-matches
 - Shocked/Scared by explicit inappropriate content.
- Stopped
 - Got bankrupt
 - Clicked button "Stop" and returned to the Start page
 - Bored
 - Tired
 - Misunderstood the UI
 - Got banned
 - Technical issue

Conversation stage

Why do people keep being in a conversation mode?

- Active reasons.
- Talking.
 - Misc guides.
- Passive reasons.
- Listening.
 - Expected emotional utility is not zero.
 - Working together? Just not being alone?
 - Doing something else, tab is open.
- Meta-reasons from meta-position (needs)
- Fear of skipping/rejecting. (for neurotics, new users and not very self-confident people)
 - Some drive (fun) is happening, not boring.
 - Just want to be alone.

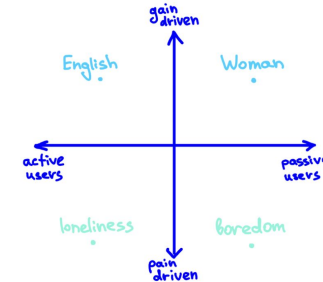
Why do people skip in conversation mode?

- Negative motivators.
- Just not a match (appearance, background, voice, noise, body language, symmetry of face)
 - Adult content.
 - Just bored. -> Skip
 - Overloaded. (Too much input from my partner) -> Skip
 - Tired. Need rest, stop. -> Stop
- Positive motivators.
- Enough value.
 - Have to go from the web-site.
 - Strategic need for more value. (gain seeking, **looking for woman**, english practice)
- Technical issues:
- Disconnect.
- Other reasons:
- Same reasons as for leaving the Selection/Rejection page.
 - Check someone's social profile shared in the chat/add to friends.
 - Id parties disruptions.

Why do people stop in conversation mode?

- Positive and neutral reasons.
- Got deeply satisfied and want to reflect, be out of the dynamic process, celebrate and have a physiological break.
 - They want to change something in settings
- Negative reasons.
- Got shocked/scared/negatively triggered, want to escape.
 - Technical issues/disconnects got banned.

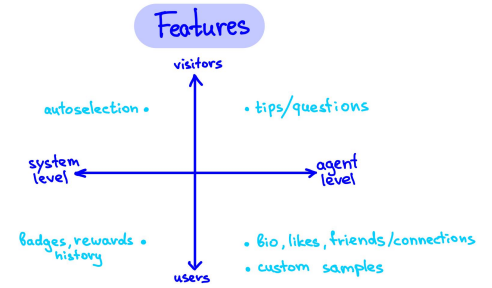
Platform Applications



Solution

I. Research

- Practice research
- **Competitors review**
- State of the art analysis

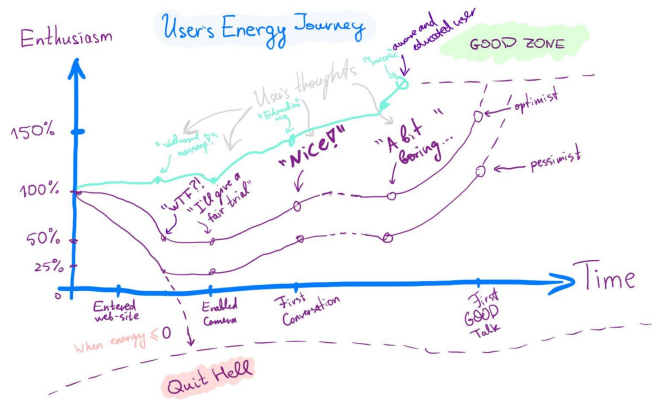
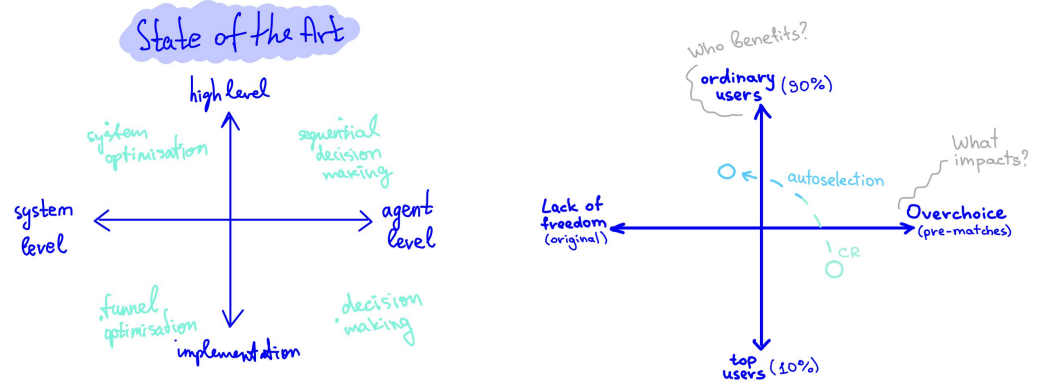


Competitors Projects ...									
⚙ Name	📄 Welcoming mechanics	📄 Matchmaking mechanics	📄 Conversation mechanics	📄 # clicks...	📄 sign in ...	📄 web/app google stor...	📄 Tags		
omegle.com	Logo + description, offer to personalise experience through interests and choice text/video, amount of people online.	autoselection, interests	video + text, text	5	no	web-site	fun adult		
chatroulette.com	Logo + enable camera (offer to start)	pre-matches	video + text only	3-6-16	limited	web-site	fun		
tinychat.com	Logo + description + real users pictures	no matchmaking, personal conscious choice	video + text, audio only, text only	3	limited	web-site	fun		
roulette.chat	Logo + offer to choose gender, no description	gender + autoselection	video + text	2	no	web-site	fun		
drugvokrug.com	Logo + description	by location	text only	1	yes	app	fun		
chatrandom.com	Logo + white-colored user friendly interface, greeting, button start, customisation options available.	autoselection	video + text, text	4	no	app web-site	adult		
bazooom.com	Logo + Video-presentation (with people) + description + pop-up with camera.	autoselection	same as main page	1	no	app	adult		
coomeet.com	Logo + description + screenshot	autoselection + waiting	colors customisation, fading out functiona	8	no	web-site app	adult		
video-roulette24.ru	enable camera pop-up (no)	autoselection	logo, audio-video settings	3	no	web-site	adult		
strangercam.com	Logo + Minimalistic description, dark design with famous colors, filters, amount of people online.	autoselection	same as matchmaking, country display	5	no	web-site	adult		
tinder.com	Logo + Description + Screenshots + Humans or avatar-based explanations.	like/dislike/superlike pre-matches	text+photos+reactions+	3	yes	app	dating		
badoo.com	Logo + Description + Screenshots + Humans or avatar-based explanations.	like/dislike/superlike pre-matches	text+photos+reactions+	20+	yes	app web-site	dating		
mamba	Logo + Description + Screenshots + Humans or avatar-based explanations.	like/dislike/superlike pre-matches	text+photos+reactions+	20+	yes	app	dating		
pot.com	Logo + Description + Screenshots + Humans or avatar-based explanations.	forms with information		20+	yes	app web-site	dating		
okqupid.com	Logo + Description + Screenshots + Humans or avatar-based explanations.	forms with information, gender, age...		10+	yes	app web-site	dating		
azarlive.com	Logo + Description + Screenshots + Humans or avatar-based explanations.	many			yes	app	fun		
bumble.com	Logo + Description + Screenshots + Humans or avatar-based explanations.			5+	yes	app web-site	dating		
muslima.com	Logo + Description + Screenshots + Humans or avatar-based explanations.	forms with information		5+	yes	web-site	dating		
pure hookup	Logo + Description + Screenshots + Humans or avatar-based explanations.	forms with information, story, bio		20+	yes	app	dating		
skout.com	Logo + Description + Screenshots + Humans or avatar-based explanations.	streams collections, conscious choice		5+	yes	app	fun		
chitruletka	Logo + Description + Screenshots + Humans or avatar-based explanations, stories.	autoselection	country, settings		yes	app			
twitch.tv	Logo + Description + Screenshots + Humans or avatar-based explanations, online previews.	conscious choice	comments, donations, likes	0	no	app web-site	fun		

Solution

I. Research

- Practice research
- Competitors review
- **State of the art analysis**



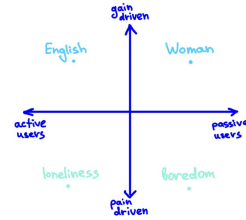
	Acquisition funnel	Activation funnel
Main decisions	<ul style="list-style-type: none"> • Click enable camera. • Allow camera and microphone usage. • Click the Start button. 	<ul style="list-style-type: none"> • Select or Reject partner at the Selection page. • Continue talking or(skip/stop/quit) at the Conversation page.
System-enforced decisions	<ul style="list-style-type: none"> • Show face in the camera area. • Sign in. 	<ul style="list-style-type: none"> • Wait if suspended. • Pay if it was banned. • Buy quids or not.

Solution

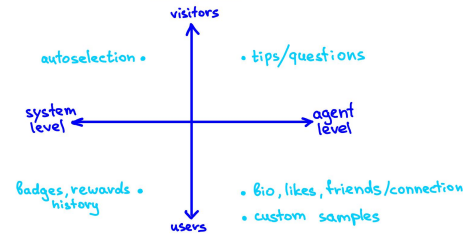
I. Research

- Practice research
- Competitors review
- State of the art analysis

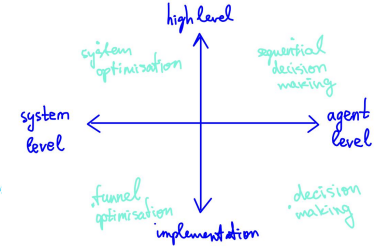
Platform Applications



Features

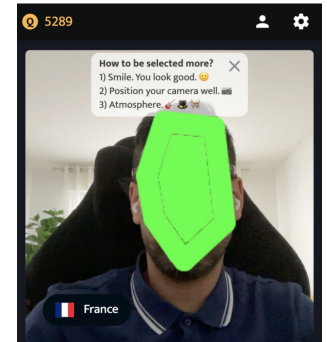
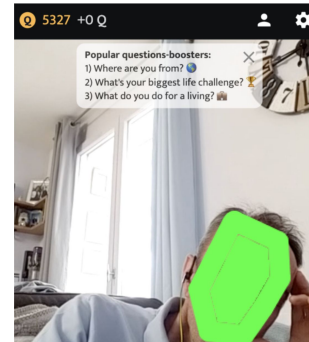
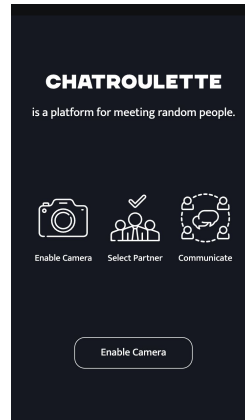


State of the Art



II. Development

- Welcome page update
- Selection page update
- Conversation page update
- Matching mechanics update
- Tracking system update



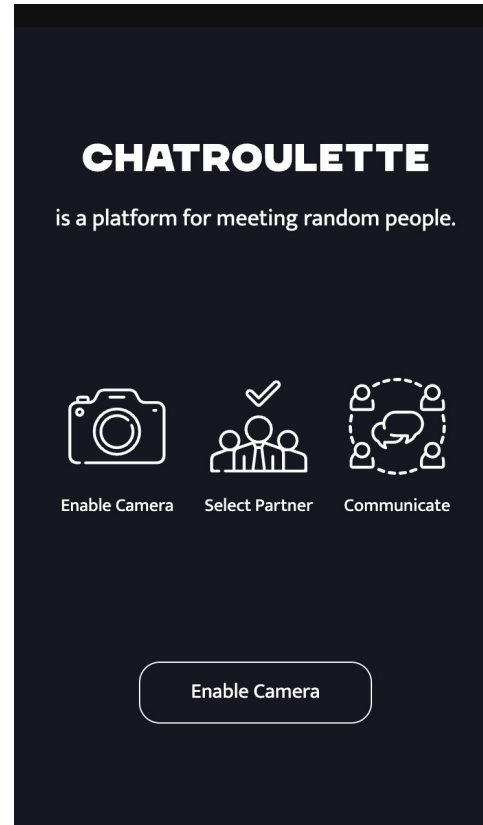
Solution

I. Research

- Practice research
- Competitors review
- State of the art analysis

II. Development

- **Welcome page update**
- Selection page update
- Conversation page update
- Matching mechanics update
- Tracking system update



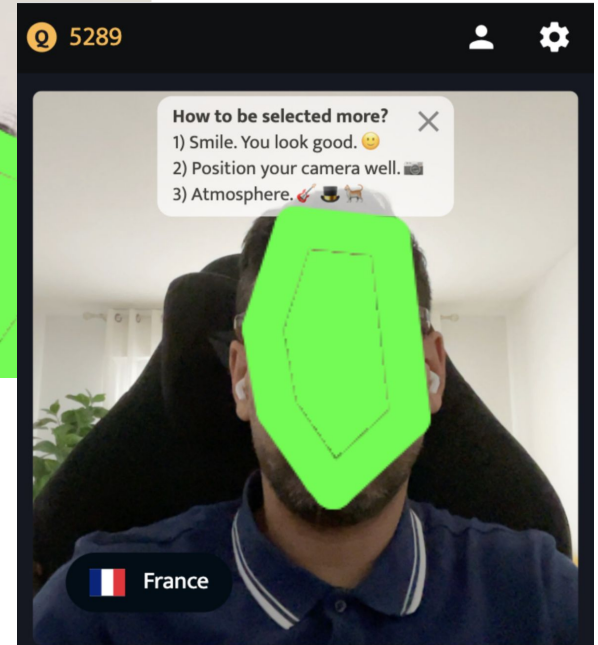
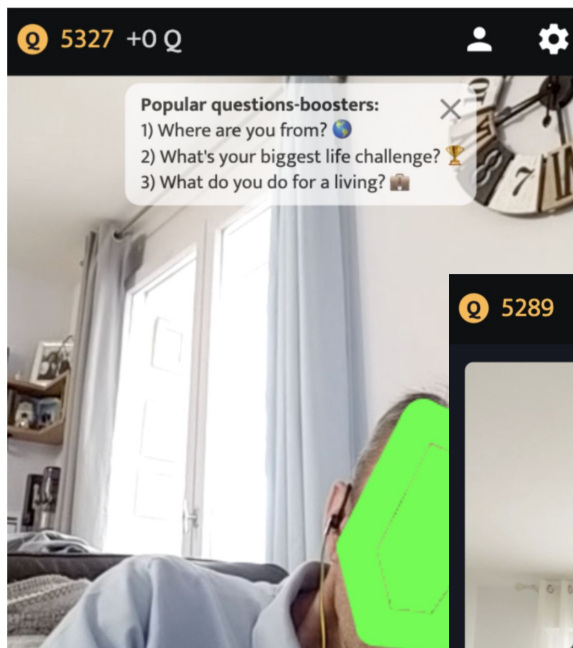
Solution

I. Research

- Practice research
- Competitors review
- State of the art analysis

II. Development

- Welcome page update
- **Selection page update**
- **Conversation page update**
- Matching mechanics update
- Tracking system update



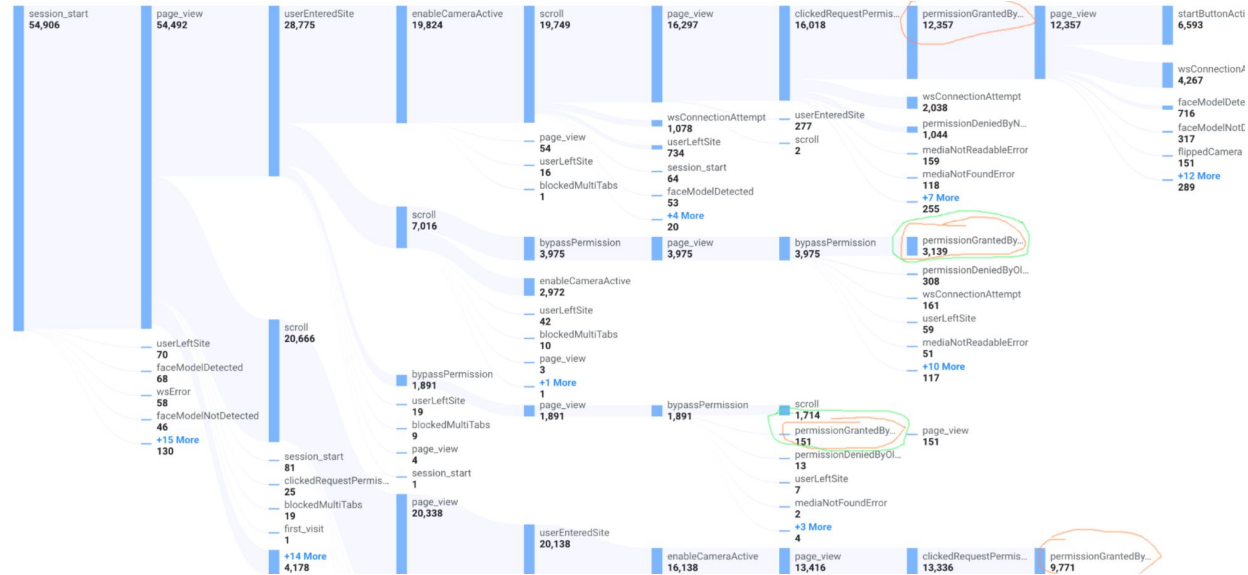
Solution

I. Research

- Practice research
- Competitors review
- State of the art analysis

II. Development

- Welcome page update
- Selection page update
- Conversation page update
- **Matching mechanics update**
- **Tracking system update**



Evaluation

Algorithm for evaluation of each change:

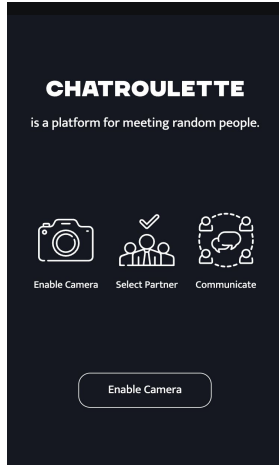
- 1) Define target conversion rate.
 - 2) Calculate measurement error from the A/A test data.
 - 3) Measure experimental score from A/B test data.
 - 4) Subtract measurement error from the experimental score in absolute values to represent the worst case scenario and calculate Z -value.
 - 5) Compare calculated Z_n with $Z_p = 0.05$, if $Z_n > Z_p = 0.05$ reject null hypothesis, else – accept it.
- * Matchmaking mechanics experimental data was collected from different periods of time by time instead of A/B test.

Evaluation

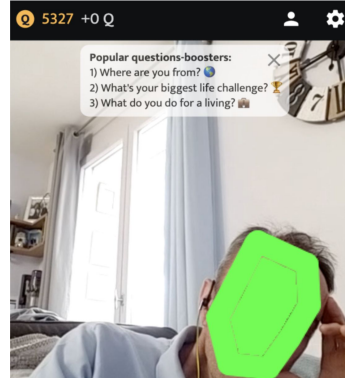
- 1) Metric for Welcome page update will be the change in conversion rates from “have seen welcome page” (“enableCameraActive” tracking event) to “clicked action start” (“clickedActionStart” tracking event) stages.
- 2) A/A test volatility for this test is -0.03%
- 3) Experimental difference is +1,33%
- 4) Total change of +1.3% with 346k samples and 62.72% mean conversion rate gives us z-value equal to 15.81
- 5) 15.81 is bigger than 1.65 so we have to reject the null hypothesis and accept the alternative hypothesis.

Result: Welcome page updates have a statistically significant positive impact on conversion rate.

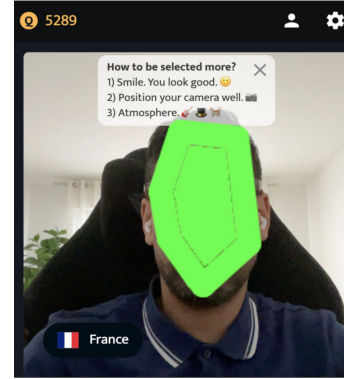
Evaluation



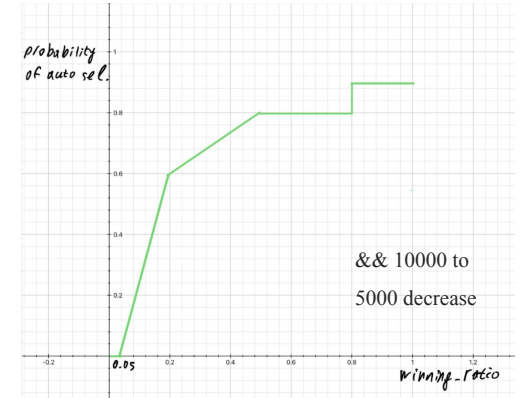
62.72% to 64,05%
increase



No difference



No difference



12.2% to 17.7%
increase

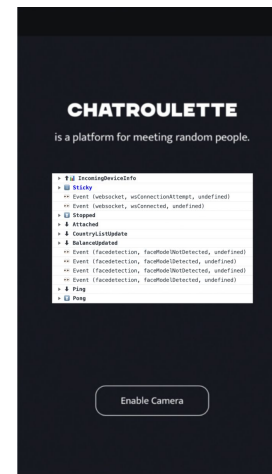
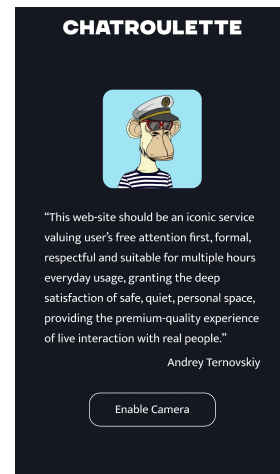
Conclusions

I. Summary && Report

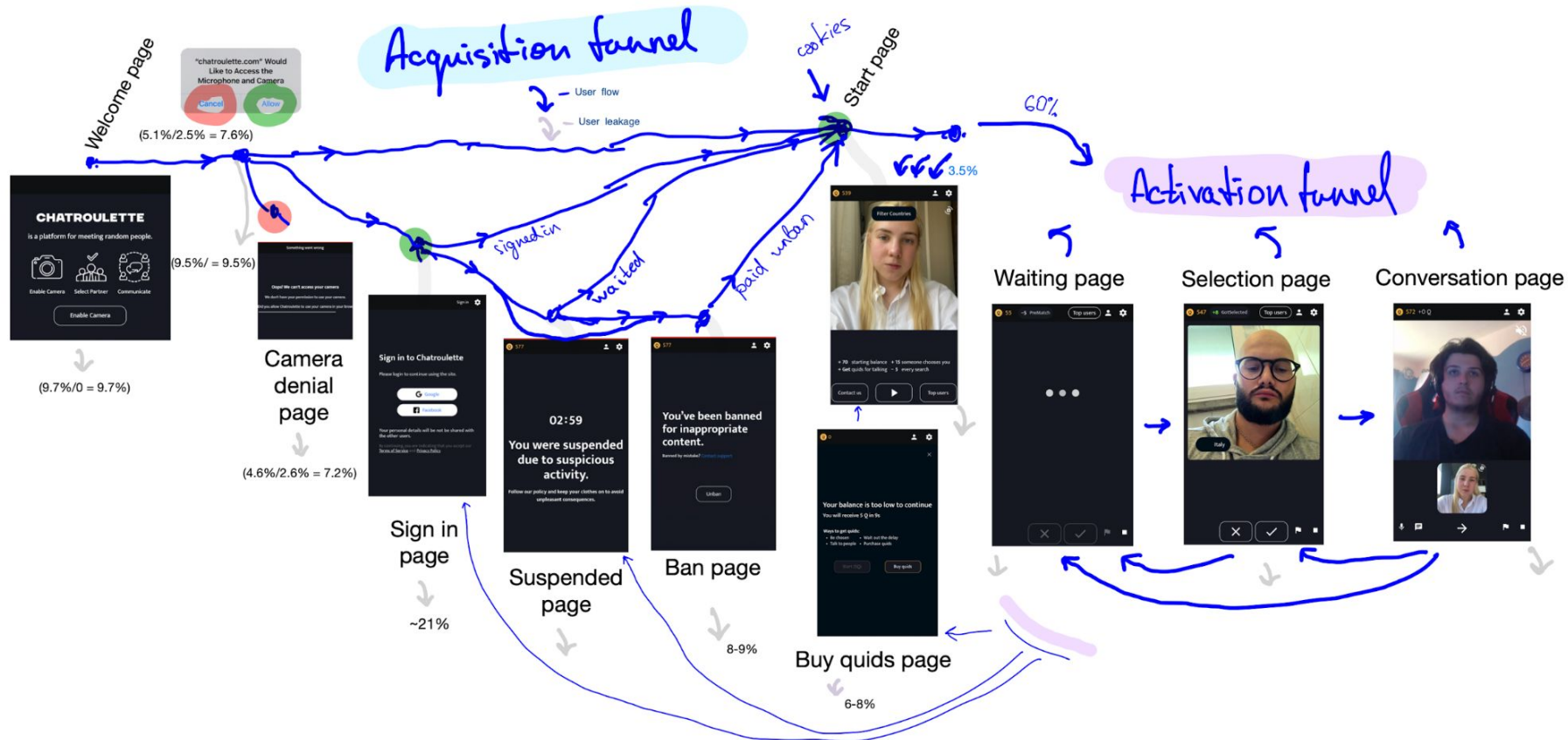
- 1 objective – User flow optimisation.
- 3 sources of innovation – Practice, Competitors, State of the Art reviews.
- 4 proposals with evaluation – Welcome, Selection, Conversation pages + Matchmaking mechanics.

II. Future work

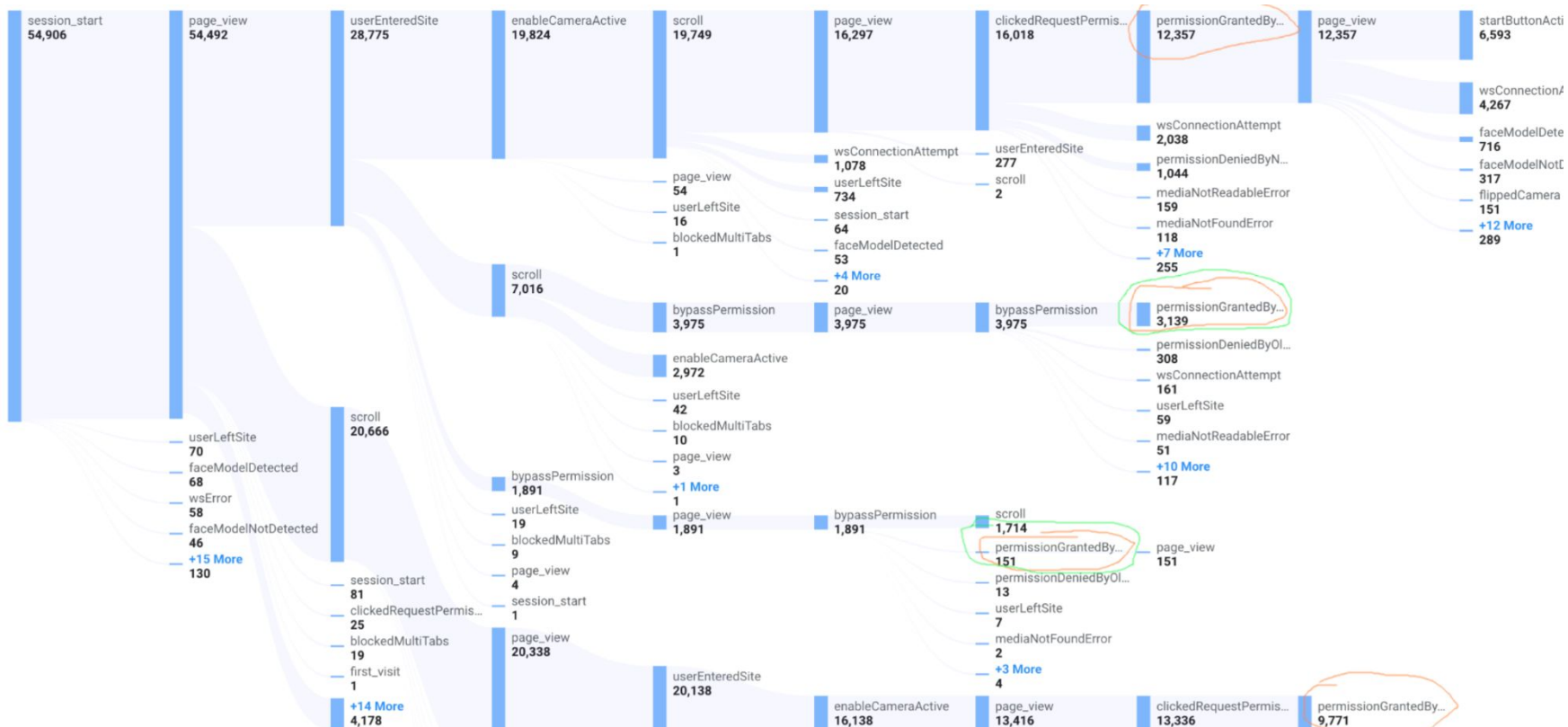
- Tracking system v.2 update
- Welcome page v.2-3 updates
- Acquisition funnel update
- Better KYC
- SEO smart update



User flow representation



Tracking update architecture



Implementation

- 250 lines of code in React+CSS+HTML
- few SQL queries total around 50 lines of code
- few lines of python code in jupyter notebook to display user's leaderboards.

```
web/ui/src/components/pages/Main/components/SelectionTips/index.tsx 0 → 100644 +39 -0 Viewed
1  import React, { FC } from 'react'
2  +
3  + import './styles.scss'
4  + import { Icon } from 'components'
5  + import { tracking } from 'services'
6  + import { TrackingEvent } from '../../../../../services/tracking/types'
7  + import { setEnableSelectionTips } from '../../../../../store/layout/actions'
8  + import { useAppDispatch } from 'hooks'
9  +
10 + type Props = Readonly<
11 +   style?: any
12 + >
13 +
14 + const SelectionTips: FC<Props> = props => {
15 +   const dispatch = useAppDispatch()
16 +   return (
17 +     <div className="selection-tips-wrapper">
18 +       <div className="selection-tips" style={props.style}>
19 +         <Icon
20 +           iconClass="selection-tips_close"
21 +           icon="close"
22 +           onClick={() => {
23 +             tracking.track(TrackingEvent.clickedCloseSelectionTips())
24 +             dispatch(setEnableSelectionTips(false))
25 +           }}
26 +         />
27 +         <div className="selection-tips_title">How to be selected more?</div>
28 +         1) Smile. You look good. 😊
29 +         <br />
30 +         2) Position your camera well. 📷
31 +         <br />
32 +         3) Atmosphere. 🍷 🍷 🍷
33 +         {props.children}
34 +       </div>
35 +     </div>
36 +   )
37 + }
38 +
39 + export default SelectionTips
```

10.3 Welcome page update.

```
const welcomePoster =
  UsageHints === 'Test' ? (
    <div className="cr-welcome-overlay__poster_hints">
      <div className="cr-hint-item">
        <img src={selfieIcon} />
        <span>Enable Camera</span>
      </div>
      <div className="cr-hint-item">
        <img src={matchIcon} />
        <span>Select Partner</span>
      </div>
      <div className="cr-hint-item">
        <img src={talkIcon} />
        <span>Enjoy Talking!</span>
      </div>
    </div>
  ) : (
    <div className="cr-welcome-overlay__poster">
      <img src={welcomePosterOriginalImg} alt="Welcome poster" />
    </div>
  )
const title =
  UsageHints === 'Test' ? (
    <div className="cr-welcome-overlay__upper-group">
      <div className="cr-welcome-overlay__upper-group__title">
        <img src={chatrouletteLogo} />
      </div>
      <div className="cr-welcome-overlay__upper-group__body"> is a platform for meeting random people.</div>
    </div>
  ) : (
    <h1 className="cr-welcome-overlay__title">Chatroulette</h1>
  )
```

Image 10: Welcome page update implementation.

Implementation

- 250 lines of code in React+CSS+HTML
- few SQL queries total around 50 lines of code
- few lines of python code in jupyter notebook to display user's leaderboards.

```

1 select round(selections.selections_count::decimal / prematches.prematches_count, 2)
2 from
3 (
4     select count(*) as selections_count, partner_user_id from prematch_decision
5     where time >= NOW() - '3 hours'::INTERVAL and (decision='Selected' or decision=
6     group by partner_user_id
7     order by count(*) desc
8 ) selections
9 join
10 (
11     select count(*) as prematches_count, user_id from prematch_decision
12     where time >= NOW() - '3 hours'::INTERVAL
13     group by user_id
14     order by count(*) desc
15 ) prematches on selections.partner_user_id = prematches.user_id
16 join
17 (
18     select user_id, count(case when gender = 'Men' then 1 end) as gender from user_gender
19     where time >= NOW() - '3 hours'::INTERVAL
20     group by user_id
21 ) genders on prematches.user_id = genders.user_id
22 where prematches.prematches_count > 300 and gender > 0
23 order by selections2prematches_ratio desc;
```

The screenshot shows a code editor with a file explorer on the left and code in the main area. The file explorer shows a directory structure including bin, boot, content, .config, drive, Trash-0, file-revisions-by-id, shortcut-targets-by-id, MyDrive, Colab Notebooks, Chatroulette Insights E..., Chatroulette custdev.gsh..., Funnel exploration & gsh..., Master Thesis - Improving..., Master Thesis - SIT, IVAN..., Shareddrives, sample_data, and datalab. The code in the main area includes a function to read a file named 'uids_text', a loop to process lines from the file, and a comment indicating the amount of selection time spent on the web-site.

Users interviews data

First time here?	no	yes	yes	yes	no	no	yes	yes	no	no	yes	no	yes	yes	yes	no	thrid	yes	no	no
answer	study and practice	improving social skills, practice language	ldk, just click	talking with people	boring	singing songs	practice language	boring	communication	girls and communication	making friends	girls and communication	for school project	boring	trolling and laughing at people	interesting spend of time	practice English	nice tool for spending free time	meeting new people	meeting new people, dating, practice language, for fun
gender	F	M	M	M	M	M	F	M	M	F	M	M	M	F	M	M	M	F	F	M
First time here?	yes	no, many times	yes	no	no	no	yes	third	second	no	no	yes	no	no	yes	no	yes	yes	yes	no
answer	talk with people	talk with people.	drunk, bored	1) english 2) boring 3) talking 4) woman	1) making friends	just talking with people	practice English, communicate with people	talking with people about different interesting things	talking with people, dating	talking with people, trolling them, laughing at people	why not?	talking with people	talking with people	laughting at people, trolling, having fun	dating with girls	communication, practice language, study	girls, communication	talking with people	activity for lesure time	dating, talking with people, practice social skills
gender	M	M	M	M	M	M	F	M	M	M	M	M	M	M	M	M	M	F	M	F
First time here?	second	yes	yes	no	second	second	no	no	no	no	yes	no	second	no	no	no	no	no	yes	yes
answer	just talking and maybe making friend	playing online and talking	talking with people and practice language and social language	looking for people from her city	improving social language, communication, finding interesting people, may his love	boring	nothing, spend time	he is horney	train English	spend time	boring	take scam	interesting speaking	talking about interesting cases in English	finding interesting person	want to find ineresting talking	just talking	practice English and German	ldk, spending time	for fun and communication
gender	F	M	M	F	M	M	M	M	F	M	M	M	F	F	M	M	F	F	M	M
First time here?	no	no	yes	yes	yes	yes	yes	yes	no	no	yes	yes	no	yes	no	third	yes	yes	no	yes
answer	communication	boys and communication	joking	girls and communication	girls and communication	improving English	talking with interesting and extraordinary people	talking with girls only	communication and spending free time	relax	drink alco	girls and communication	meeting new people	it was interesig to know what is it	drawing and teaching how to draw	boring	talking with people	making friends	talking with people	study and finding interesting people
gender	F	F	M	M	M	F	F	M	F	M	M	M	F	F	M	M	M	M	M	F
First time here?	yes	no	no	yes	yes	yes	no	yes	no	yes	no	yes	yes	yes	yes	yes	yes	no	no	no
answer	boring	boring	meeting new people	study and practise language	talking with people	talking with people and finding girlfriend	relaxing and talking	online pub (drink alcohol)	for fun, talking with people	communication	practice language, study, improving social skills, finding friends	she was boring so...	practice language	it was interesting to know what is it	ask people about my photo (Do I look like a Korean or a Hindu?)	talking with people	for fun and practicing my sence of humor	boring, spending time	friends or girls	bored
gender	M	F	M	F	M	M	F	M	M	F	M	F	M	M	F	F	F	M	M	M

Stakeholders interviews data

Selection stage

Why do people select partners in pre-matches?

- Nice appearance (or hot men)
- Want to talk.
- Need quids.
- Want to feel generous and enjoy spending and power.
- Automatic reaction for people with high openness or negative reference points (that are more ready to risk).
- Autoselection.
- Timeout.
- Bug.
- Misunderstood the functionality.

Why do people reject partners in pre-matches?

Interesting reasons.

- They saw +15 GotSelected, upgraded their reference point for this decision, changed their strategy to loss (time) aversion and skipped to maximise future EEU in the next sequential decision making batch. It is of great interest how interesting it's very interesting how people who came up with this observation change their behaviour.
- Angry because of a previous rejection from talk.

Obvious reasons.

- A match with their bullshit threshold (not a girl, not nice appearance, personal preferences, suspicious camera position)
 - Threshold can be constructed via-positiva (I want something specific, everything else is not interesting) – dedicated users.
 - Or via-negativa (I don't want scary content, I'm open to anything else) – open to new experience users.
- Unconscious momentum.
- Rejection makes me feel power, makes me feel in control. (They get some value.)
- Bug.
- Misunderstood the functionality.

Why do people leave the selection/rejection stage?

- Leave the web-site
 - Bored
 - Tired
 - Long time/amount of unsuccessful pre-matches
 - Shocked/Scared by explicit inappropriate content.
- Stopped
 - Got bankrupted
 - Clicked button "Stop" and returned to the Start page
 - Bored
 - Tired
 - Misunderstood the UI
 - Got banned
 - Technical issue

Conversation stage

Why do people keep being in a conversation mode?

Active reasons.

- Talking.
- Mine quids.

Passive reasons.

- Listening.
- Expected emotional utility is not zero.
- Working together? Just not being alone?
- Doing something else, tab in open.

Meta-reasons from meta-position (needs)

- Fear of skipping/rejecting. (for neurotics, new users and not very self-confident people.
- Some drive (fun) is happening, not boring.
- Just want to be not alone.

Why do people skip in conversation mode?

Negative motivators.

- Just not a match (appearance, background, voice, noise, body language, symmetry of face)
- Adult content.
- Just bored. -> Skip
- Overloaded. (Too much input from my partner.) -> Skip
- Tired. Need rest, stop. -> Stop

Positive motivators.

- Enough value.
- Have to go from the web-site.
- Strategic need for more value. (gain seeking, looking for woman, english practice)

Technical issues:

- Disconnect.

Other reasons:

- Same reasons as for leaving the Selection/Rejection page.
- Check someone's social profile shared in the chat/add to friends.
- 3d parties disruption.

Why do people stop in conversation mode?

Positive and neutral reasons.

- Got deeply satisfied and want to reflect, be out of the dynamic process, celebrate and have a physiological break.
- They want to change something in settings

Negative reasons.

- Got shocked/scared/negatively triggered, want to escape.
- Technical issues/disconnects/got banned.

The Problem

The Solution

Proposals

What else was considered?

Evaluation

Model

Results

Conclusions

Summary about what's in the paper?

Future work examples

Outline

Presentation Outline

- The problem or questions that led to your research
- Your methods for answering the question or solving the problem
- Your major findings
- The implications, significance, or applications of your findings
- Your next step in your scholarly career

What Does Defense Mean?

- You are presenting yourself as a scholar in the discipline and an authority on your subject—what do you have to offer?
- You will be expected to cogently and clearly explain your work and how it fits with other research and scholarship in your field.
- Turn it from a grilling to a conversation. You can ask questions, and you should feel good if committee members talk to each other, disagree, or even challenge your ideas.

Given the constraints I was working with, this is what I was able to do. But if I could do more..