

EN

Guideline for the smart application InCreDi

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I. INTRODUCTION

The InCreDi application is a modern solution for universities that need to streamline communication between university staff and students. All data (documents, videos, voice recordings, live chat, instant messages, tests, exercises) is always at the employee and student fingertips, through their smartphone, tablet, laptop or at their home desktop.

The InCreDi application is a great educational tool. The university staff can intuitively and easily upload a new lecture, create a test or exercise, send an instant message that reaches all students simultaneously, communicate with the student via message chat or live chat and much more.

The InCreDi application is an irreplaceable educational tool for the student. The university students have an immediate access to the materials, whether they want to watch or listen to the last lecture, solve the latest exercise, assess their knowledge with a test, write a message to the teacher if anything is not clear or talk to other students in a live chat.

Intuitive controls, a modern look, available to all users, that's InCreDi.

II. Technical parameters

The project consists of the following parts:

- The server through which the InCreDi application communicates. Communication is based on requests in JSON format. The API is written in the PHP programming language and the data is stored in a MySQL database. The server was supplied by the Slovak University of Agriculture (SPU).
- The InCreDi application for iOS and macOS is written in Swift programming language, under the Xcode interface.
- The InCreDi application for Android and Windows is written in the Kotlin programming language, under the Android Studio interface.

Note: In all requests when the InCreDi application asks anything on the server at the logged in user, the application uses secure encryption keys in which we use our own character strings.

III. Functions

Home screen

The home screen is a graphical representation of the InCreDi application. The user is going to spend just a few seconds on this screen before getting to the next screen.



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Login screen

If the user is not logged in, the login screen will appear inevitably. If the user has never created an account on the InCreDi application before, it will be necessary to create a new one by clicking on the "create account" button. If the user loses the password, there is the possibility to click on the "forgot password" button. When the user wants to log in, there are two fields that are required to be filled, namely "e-mail" and "password"

before clicking on the "login" button. After successfully verifying the login details, the user is redirected to the PIN screen, through which they must enter a 4-digit PIN code.

PIN screen



The login screen features a header with five icons: a presentation screen, a graduation cap, a certificate, an open book, and a person. Below the icons is the word "login" in a large, bold, blue font. Underneath "login" are two light blue rounded rectangular input fields. The first field contains a person icon and the text "e-mail". The second field contains a key icon and the text "password". Below these fields is a blue button with a white paper plane icon and the text "login". At the bottom of the screen, there is a link "forgot password?" and a dark blue button with a white paper plane icon and the text "create account".

Once the login process is successfully completed, the user will reach the PIN screen. A 4-digit PIN code is sent to the user's e-mail box. If the user enters the correct PIN code, the login process to the InCreDi application will be over. The user can request a new PIN code by clicking on the "resend code" button and a new PIN code will be therefore sent to the user's e-mail address.



verifying

We send you 4-digits code to your e-mail address. Please write code to inputs.

2 7

 resend code

Screen “successful login”

If the user has entered the correct PIN code, the InCreDi application redirects the user to this screen. After clicking on the "continue" button, the application redirects the user to one of the main screens- to the screen with teaching materials.



success

Great Tomáš Boros!
You successfully logged to incredi.

 continue

The screen “password forgotten”

If the user has forgotten the password, there is the possibility to click on the “forgot password” button in the login screen once redirected to this screen in the image below. In this screen, the user can re-enter the registered e-mail address and after clicking the "reset password" button, the server sends the user a new password. The password is automatically generated.



forgot your password

We send you new password on
your e-mail address

 e-mail

 reset account

Screen with successful forgotten password generation

Once clicked on the "reset password", the user will see this screen button on the Forgot Password screen. After clicking on the "continue" button, the user will be redirected to the login screen, through which the new password must be entered.



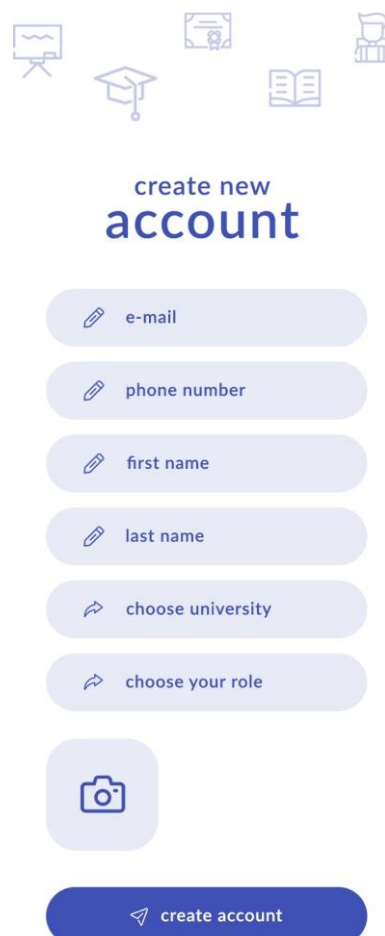
success

Great Tomáš Boros!
We send you new password.

 continue

New account creation screen

If the user clicked on the "create account" button in the login screen, the application redirects to the new account creation screen. In this screen, the user can set up a new account for the InCreDi application. All fields are mandatory, so if the user does not complete any of the required fields, the InCreDi application will notify him/her. With the option "choose your role", the user can choose whether he/she is a university employee or a student.



The image shows a mobile application screen for creating a new account. At the top, there are five icons: a presentation screen, a graduation cap, a document with a lightbulb, an open book, and a person at a desk. Below the icons, the text "create new account" is displayed. The form consists of several input fields, each with a pencil icon on the left: "e-mail", "phone number", "first name", and "last name". Below these are two dropdown menus, each with a right-pointing arrow icon: "choose university" and "choose your role". At the bottom of the form is a camera icon. At the very bottom is a large blue button with a right-pointing arrow icon and the text "create account".

With the "choose university" option, the user can select the university affiliation from the list. After clicking on the "create account" button, the server sends an e-mail to the superadmin person. This email will display all the information the user entered when creating a new account. The admin verifies the truthfulness of the University affiliation. If the admin evaluates the veracity of the information provided, he/she will click on the link in the e-mails to confirm this new account.



waiting

Great Tomáš Boros!
Your request to create a new account
is awaiting approval.

When your account is approved,
we'll notify you with a push notification.

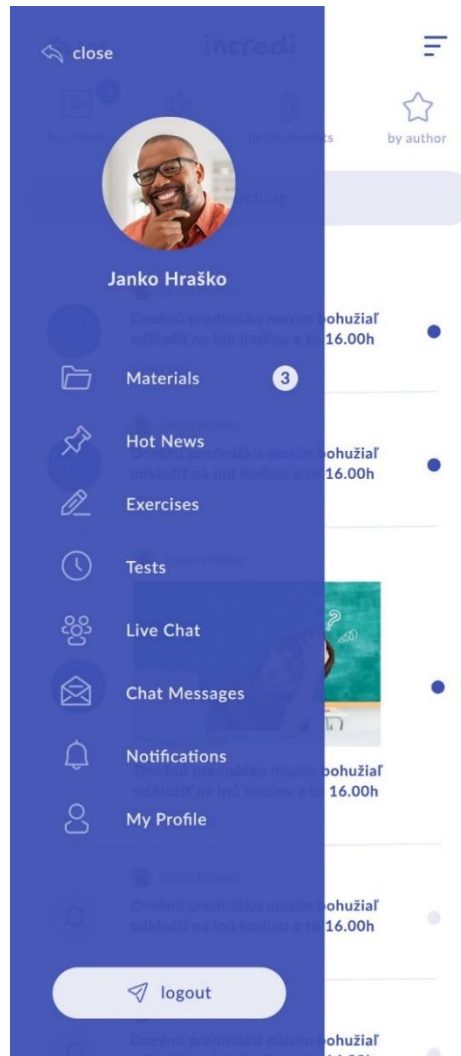
 [check account](#)

If the user has been confirmed by a superadmin person, the user will receive an e-mail confirming the successful creation of the account and containing a new automatically-generated password.

By clicking on the "check account" button, the user can verify whether or not the account has already been confirmed. If the account has been confirmed, by clicking on the "check account" button, the user will display the information previously inserted and after clicking on the "continue" button he/she will get to the login screen, where the login process can be started.

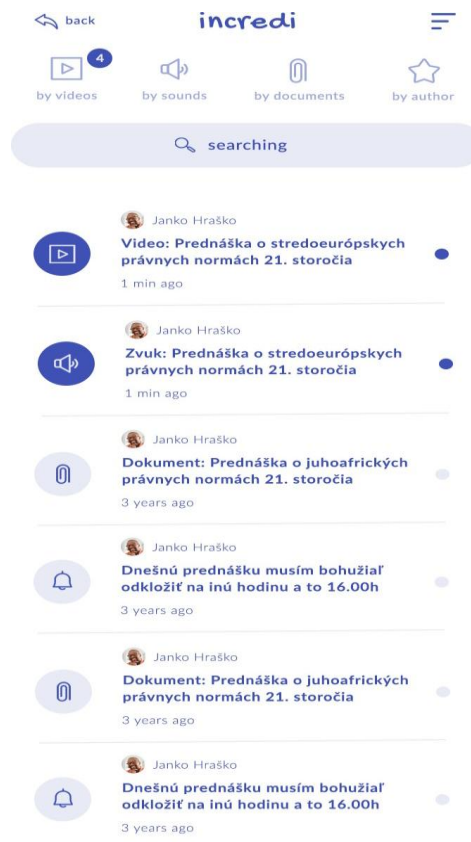
Screen Menu

Every logged in user gets to the screen menu. The user has to click on the "burger menu" icon in the upper right corner. The menu screen contains all sections of the InCreDi application. The main part of this screen is covered by the photo and the name of the logged user. Only in the menu screen the user will be able to log out from the InCreDi application by clicking on the "logout" button at the bottom of the screen. If a university employee has added a new material or a document for a given section, a white circle will appear next to the section together with the number of new items that the user has not seen before.



Screen with materials

After the successful login, the user will see this screen. The materials screen contains all the materials added by the university employee through their account. Please note that since the application recognizes to which university the employee and the student belong to, only the materials for the given university that the employee and the student chose when creating their account will always be displayed in this screen.



In this screen, the user can sort the list of materials by videos, sounds, documents or author).

The blue circle with the number means that there are new materials for that the user has not yet seen.

The bold lines/titles in the list of materials is a further recognizable sign for a content that the user has not yet seen.

Each line has its own icon on the left, depending on the belonging category (videos, sounds, documents, author).

The screen contains a search option where users can filter materials through key words.

Materials will be displayed in detail by clicking on the title row whether if this is a video, sound file or a document.

← back

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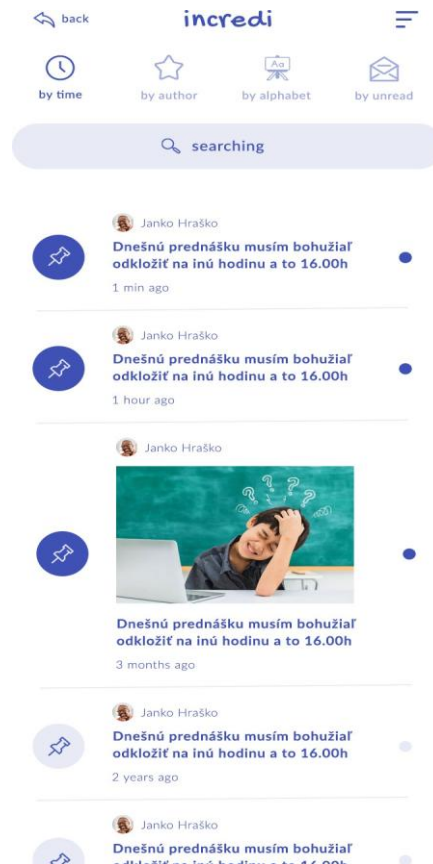
Zvuk: Prednáška o stredoeurópskech
právnych normách 21. storočia

1 min ago



Janko Hraško





Screen “Hot News”

The university staff member can add any urgent information directed to the students through this screen. For example: "Today's online lecture is canceled because I'm sick." Urgent information can also contain an image.

In this screen, the user can sort the list according to four options (by time, author, alphabet or unread files).

A bold line in the list means that the announcement has not yet been seen by the user.

The screen contains a search bar that filters by the entered terms.



my incredi account


 boros@boros.digital

 0948 339 725

 Tomáš

 Boros

 Slovak University of Agri...

 Student



 update account

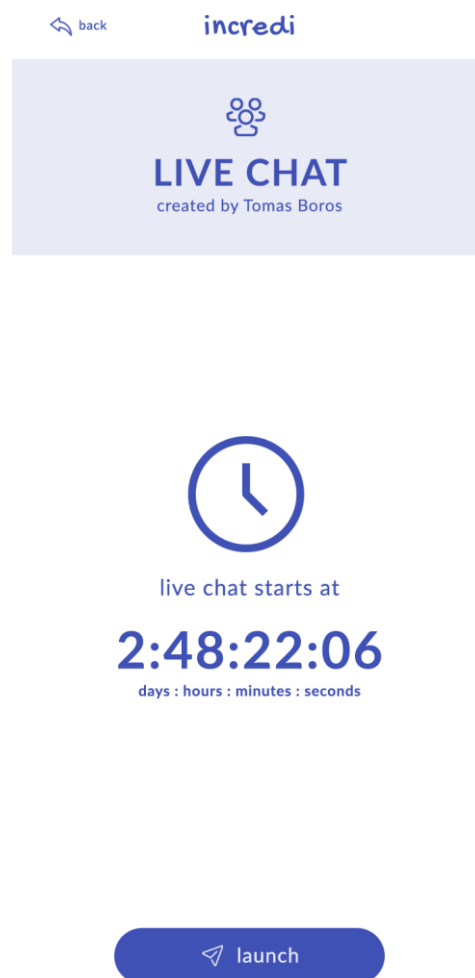
Screen My Profile

This screen shows the user data that have been inserted while creating the account. The data can be changed by the user.

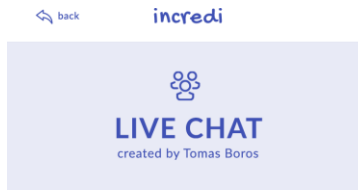
Screen Live Chat

Live chat can be created by a university employee as well as a student. We have three types of screens:

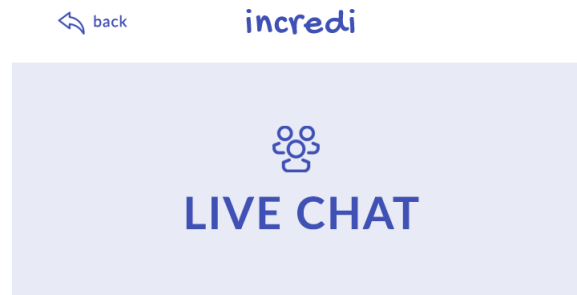
- a screen that shows a countdown of how much time is left until the next live chat.



- a screen shows that the live chat is already in progress, users can access this chat by clicking on the "launch" button. The live chat via Google Meet will be displayed right afterwards.



c) a screen informs you that the user has no live chat scheduled.



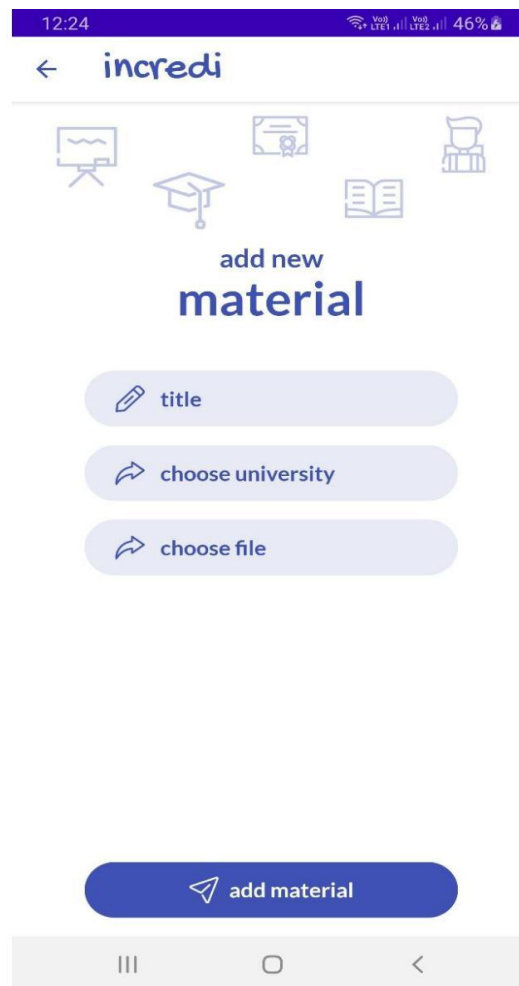
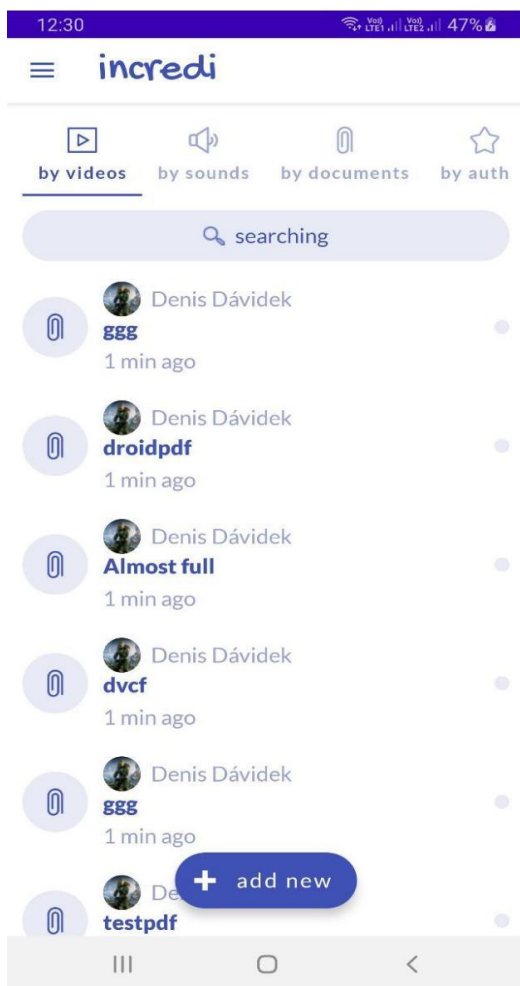
you have no scheduled
live chat right now

IV. Specific functions

This part consists of 2 sections: 1 section for teachers and 1 section for students.

IV.1 For teachers - addition of materials

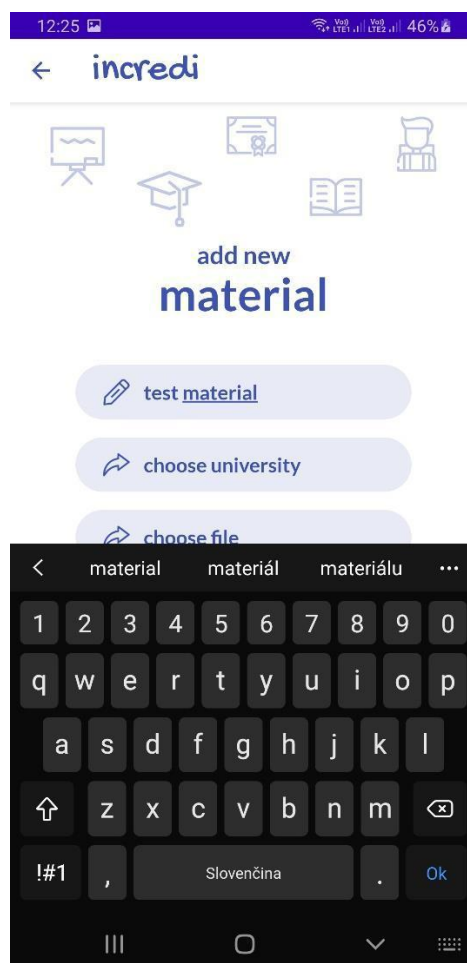
The “add button” is displayed on the material screen. After clicking this button, the screen “Add material” will be opened.



IV.1.1 Add Material screen:

In this screen, the teacher can add teaching material to the server, which is then available to the selected students. To successfully add material, you need:

1. Fill in the name of the material:

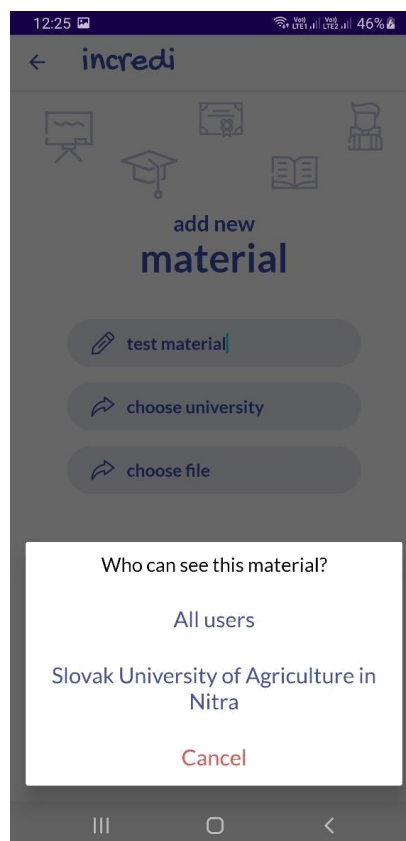


2. Choose for which students the material is intended.

The application offers a choice of 2 options:

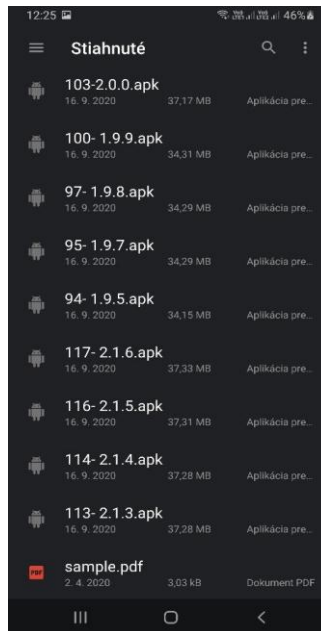
- a) Your university that you selected when creating your account
- b) All users.

When "all users" is selected, the added material will be available to every user of the application.



3. Select the required material from your device

After clicking on the item "choose file", a system browser will open in which you can select the required file (Currently supported file extensions are pdf, mp3 and mp4):



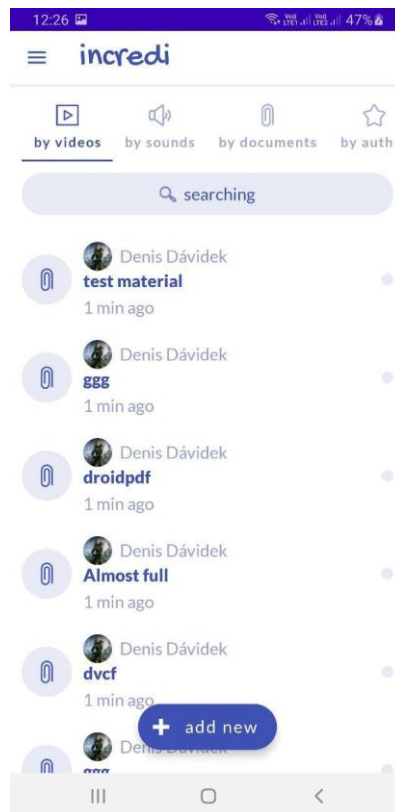
Once you have successfully completed all 3 mentioned points, then the material is ready to be added to the server:



After clicking on the "add material" button, the material will be added to the server. The user is informed of the status status of the upload by a message at the bottom of the screen:

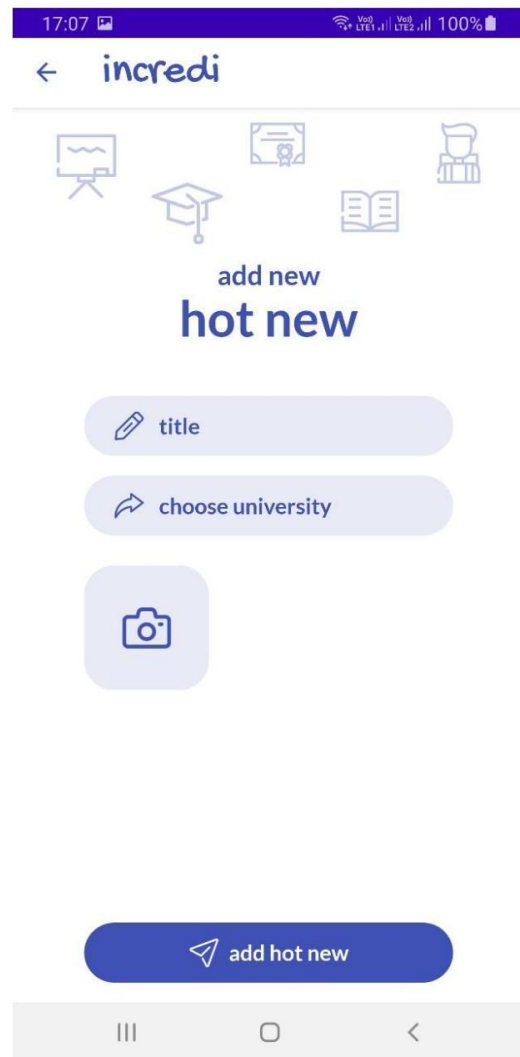
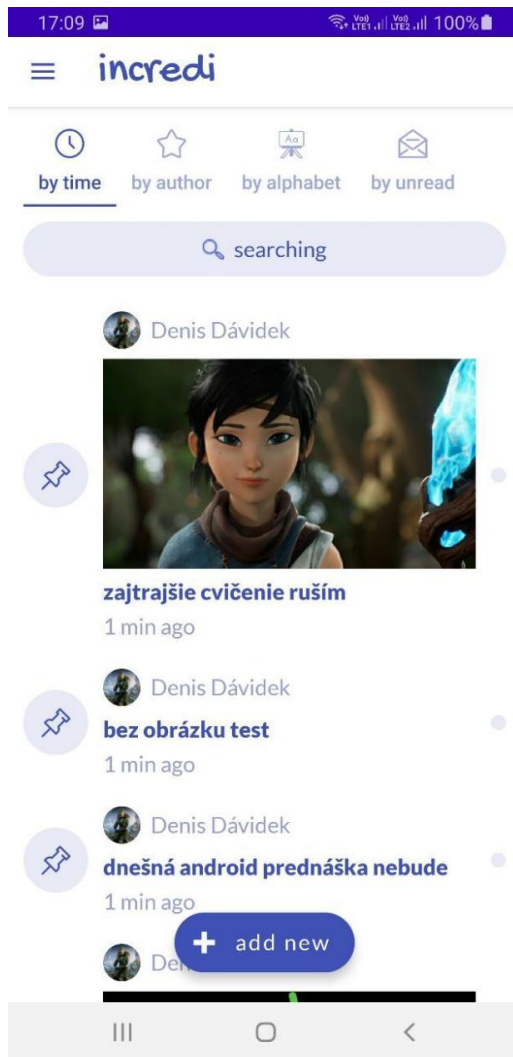
Material successfully added

If the user wants to see the successfully added material, just return to the materials screen, where all the added materials are sorted from the newest to the oldest:



IV.2 For teachers - Adding hot news

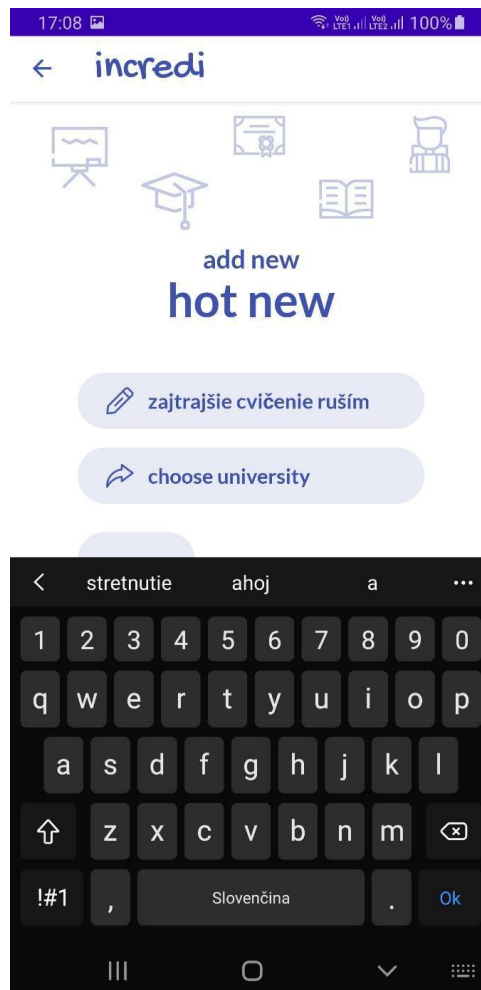
The "add new" button is displayed on the hot news screen. Clicking this button will open a new screen to add hot news.



IV.2.1 Add hot news screen:

In this screen, the teacher can add new hot news to the server, which are then available to the selected students. To successfully add a new hot news you need:

1. Add new hot news title:

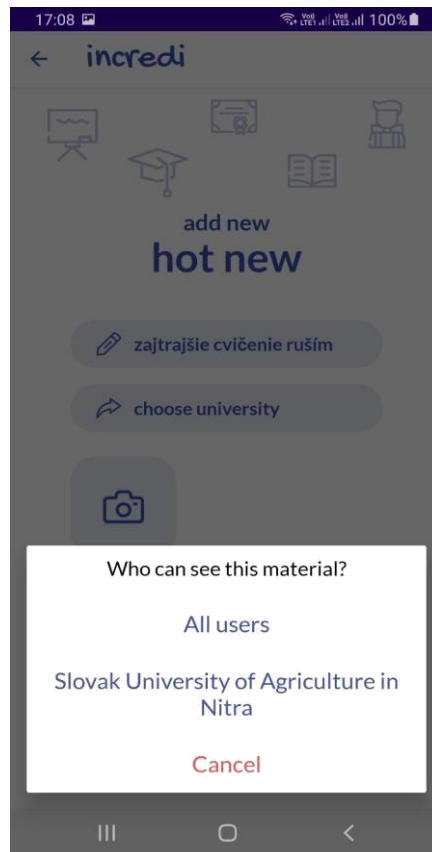


2. Choose for which students the hot news is intended.

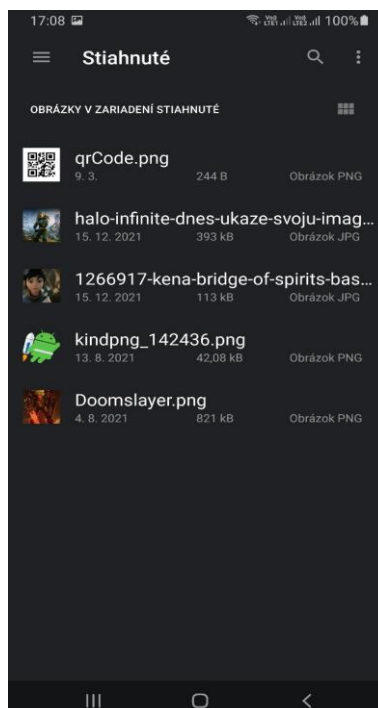
The application offers a choice of 2 options:

- a) Your university that you selected when creating your account
- b) All users.

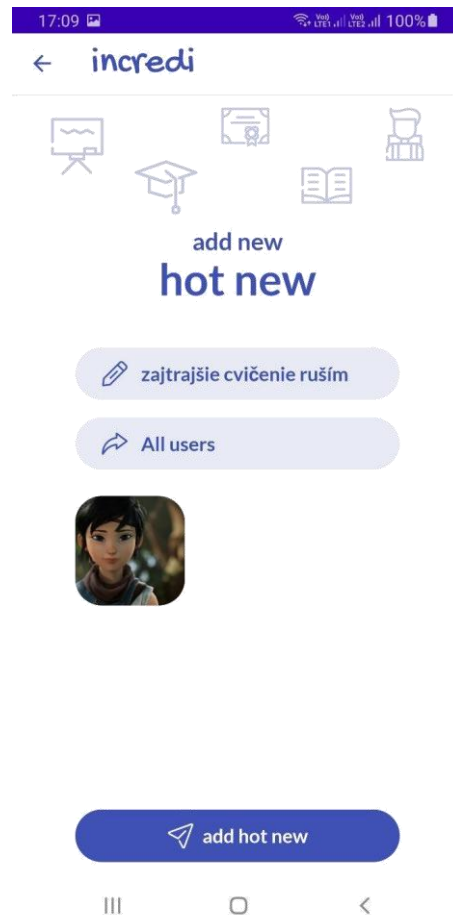
When "all users" is selected, the added material will be available to every user of the application.



3. (OPTIONAL) Select an image from your device. After clicking on the camera button, a system browser will open through which you can select the desired image:



Points 1 and 2 are MANDATORY to add new hot news. If the user also selects an image, the camera button is replaced by the image previously selected:



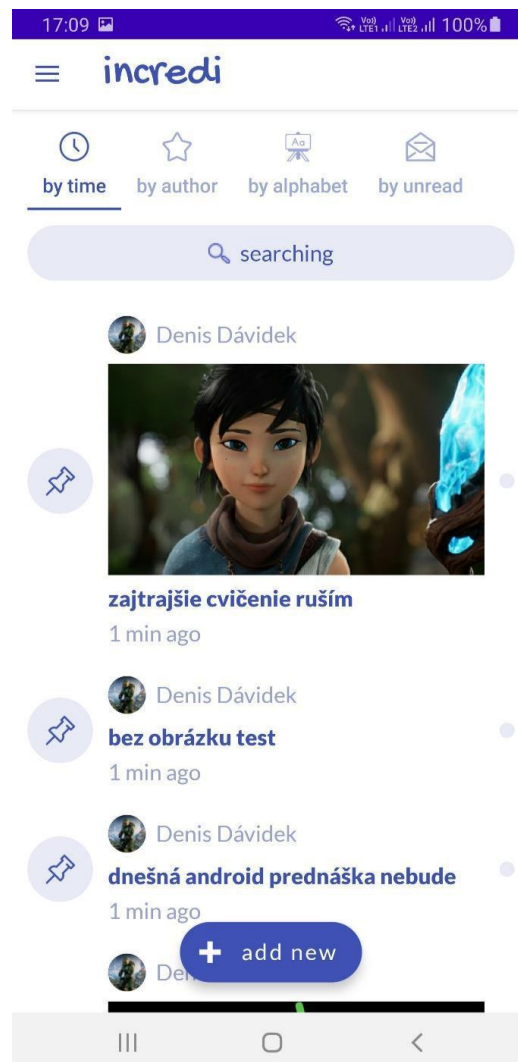
If the user wants to change the image, this can be done by clicking the button with the selected image and then the system browser mentioned in point 3 of this section will open again.

At this point, the new hot news is ready to be added to the server.

After clicking on the "add hot new" button, the hot news will be added to the server. The user is informed of the status of the addition by a message at the bottom of the screen:

Hot news successfully added

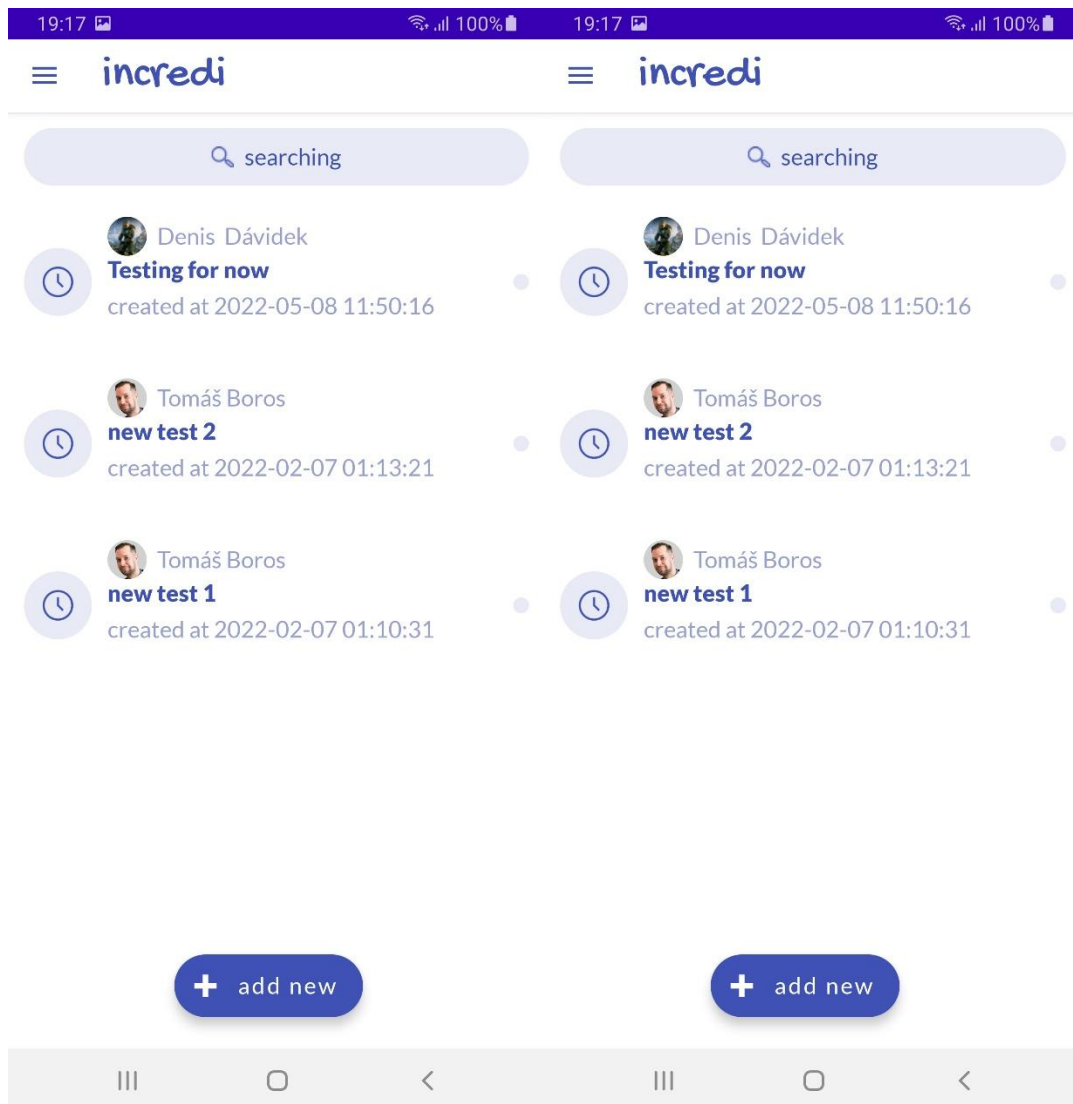
If the user wants to see the successfully added hot news, just return to the hot news screen where these are sorted from newest to oldest:



IV.3. For teachers- Adding new test

The "add new" button is displayed to teachers in the tests screen.

After clicking this button, a new "create test" screen will open.



IV.3.1 Screen „Create test“:

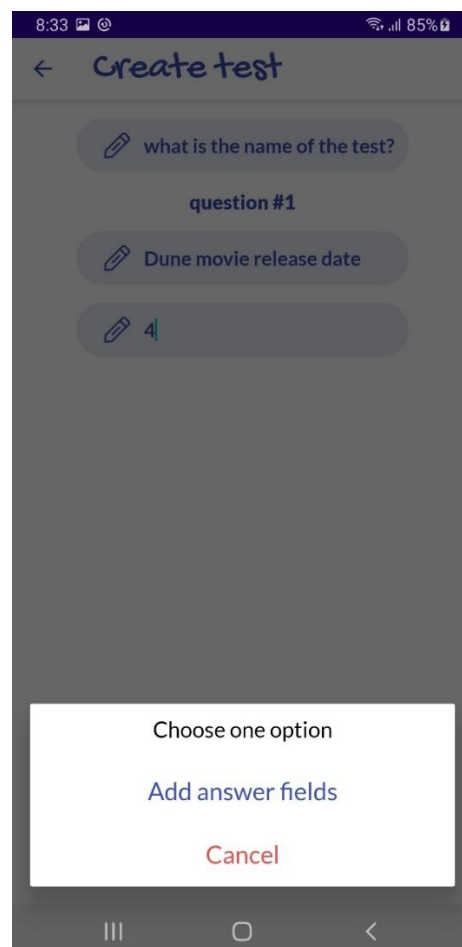
In this screen, the teacher can create a test that can then be sent to the server. If the created test is successfully sent to the server, then such a test is subsequently available to selected students.

To successfully create a test, you need:

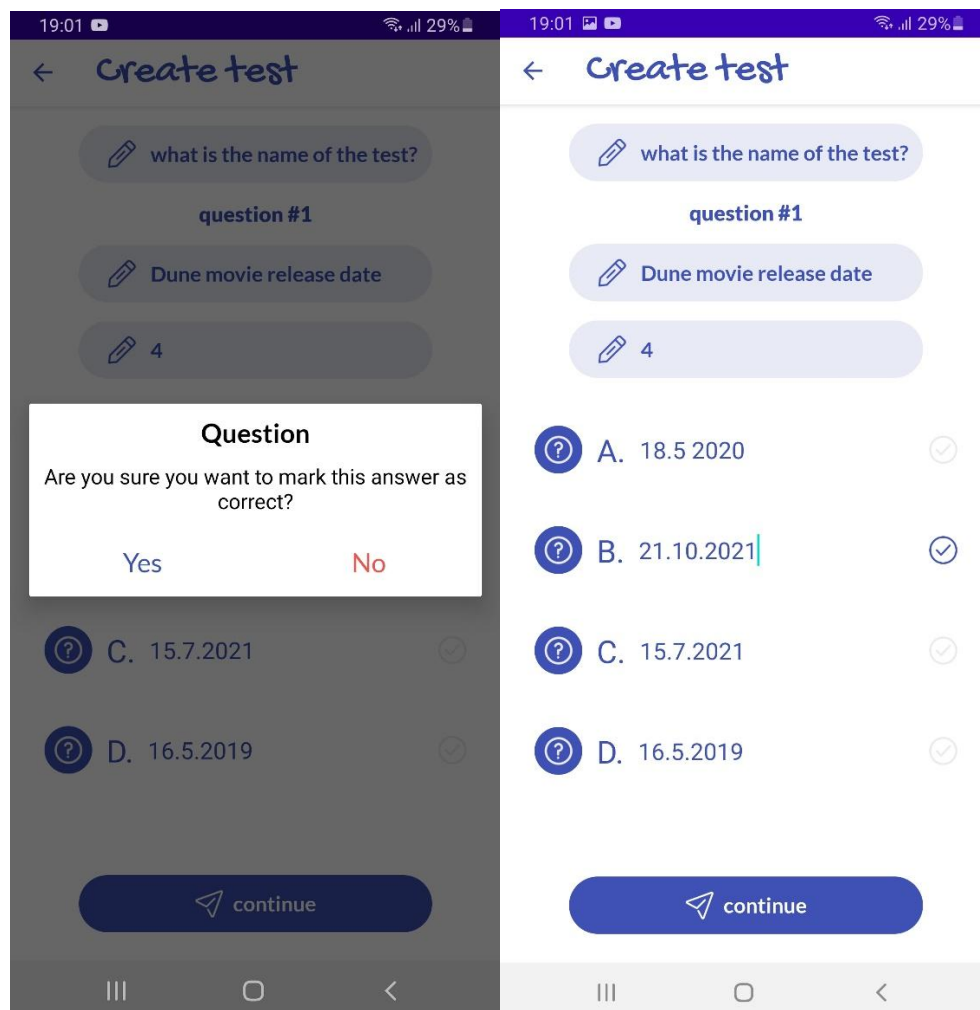
- a) Fill in the name of the test
- b) Enter all questions together with their answers and mark the correct answer in each question
- c) Export the given test to the server

IV.3.2 For teachers – Entering questions and answers:

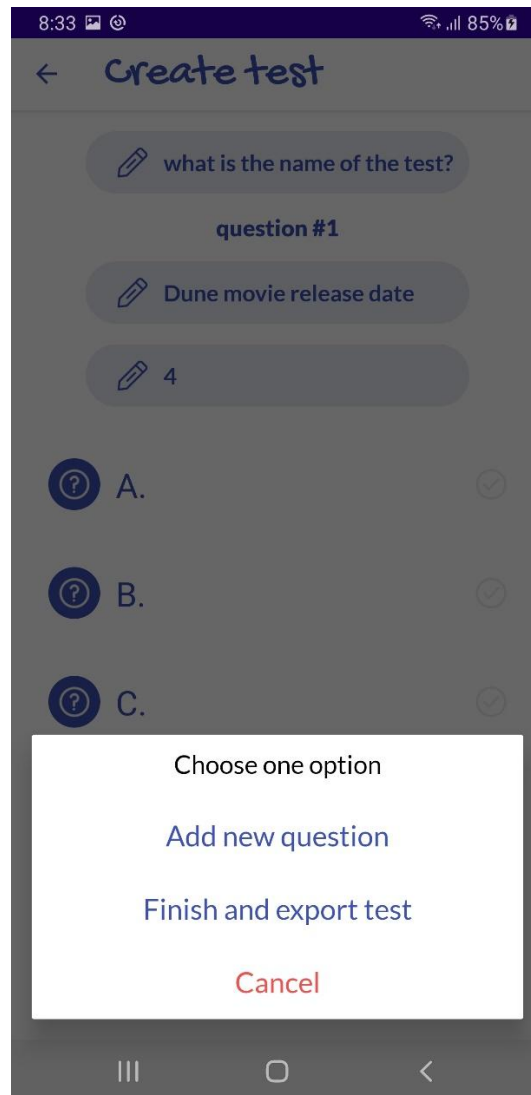
To enter each question, it is necessary to fill in its name and the number of answers that the question will offer to choose from (currently in the application it is allowed to enter 6 answers to each question). After entering these parameters, either by clicking on the „continue“ button or by clicking on OK/check on the displayed keyboard of the device, a dialogue with options will appear:



After clicking on the „Add answer fields“ option, empty fields will be generated in the application for entering answers to the given question. After filling them in, it is necessary to mark the given answer as correct. By clicking on an item with the question (outside the field for entering the text of the answer), a verification dialog will be displayed:



Subsequently, either by clicking on the button “continue” or by clicking on ok/check on the displayed keyboard of the device, a dialogue with options will appear:

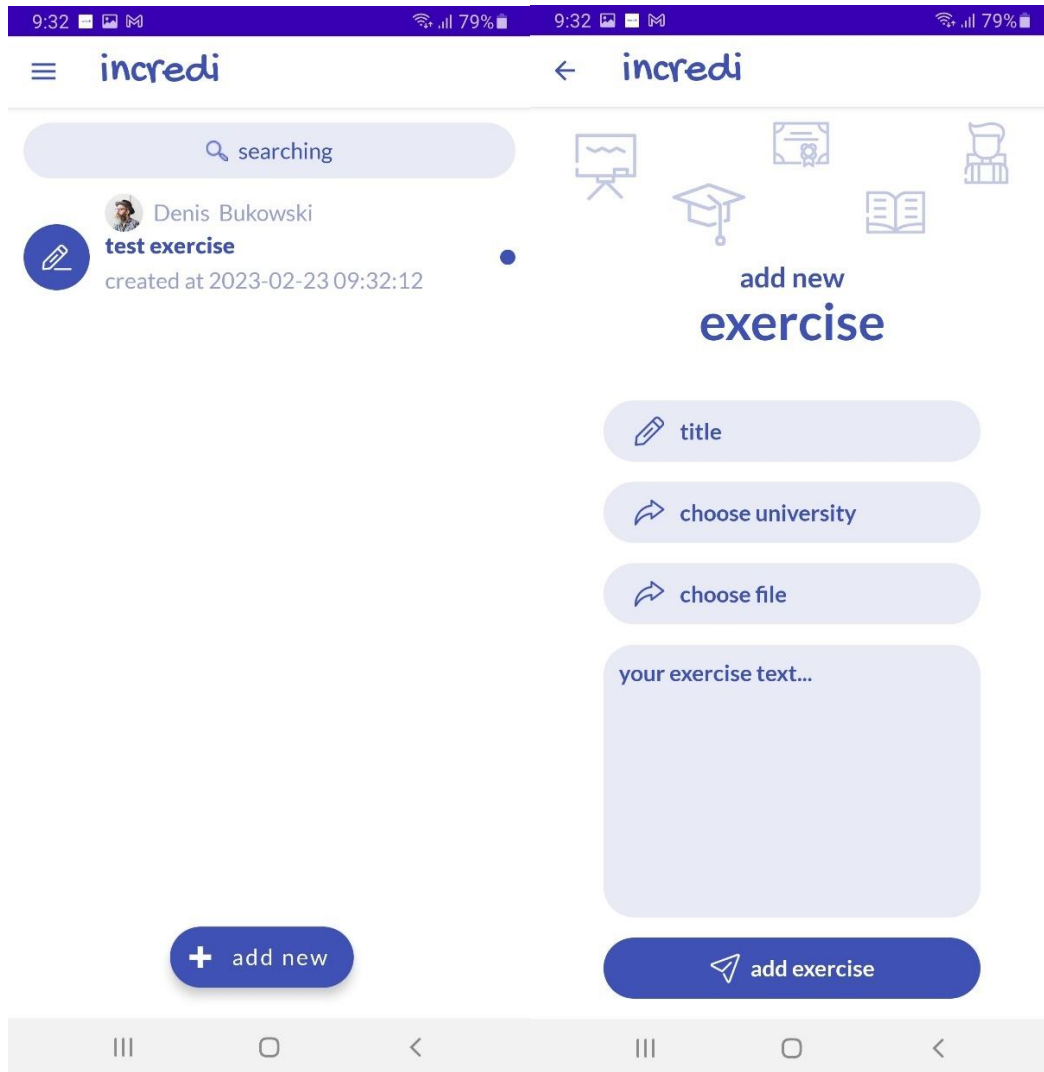


If the user selects the option "add a new question", then the application creates a new question and the entire process of entering the question and answers needs to be repeated again. After clicking on "finish and export test", the application sends the test to the server. The application informs the user about the status of the test exported to the server with the same message as e.g. at the "Add Hot News" section.

IV.4 For teachers – Exercises

The exercise screen shows teachers an "add new" button.

After clicking this button, a new screen will open "create exercise".



IV.4.1 Screen “create exercise”:

In this screen, the teacher can create an exercise. This exercise will be sent to the server by clicking the "add exercise" button. After that, this exercise is available for students.

To create an exercise successfully it is necessary:

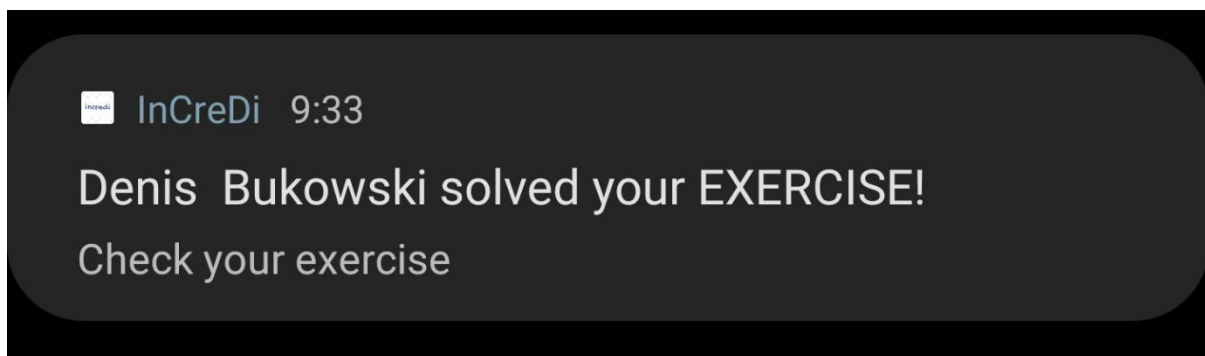
- a) Fill in the name of the exercise

- b) Select the university for which this exercise will be available
- c) Insert the prepared pdf file with the entry
- d) Insert the exercise text

When the exercise is successfully created, the teacher is informed by a message in the application.

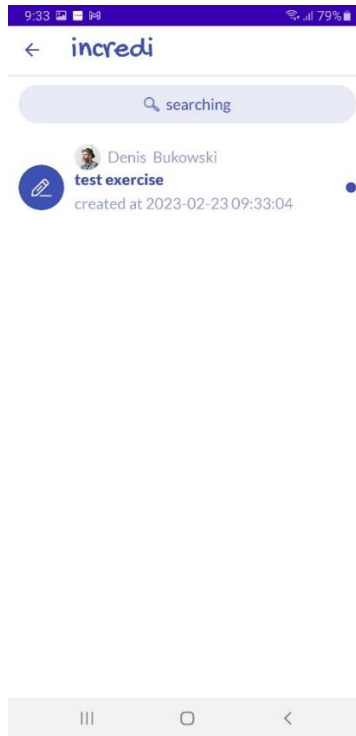
IV.4.2 Notice about the preparation of the exercise:

Once the app user has created an exercise, a push message will be sent and inform that the user did the author's exercise.

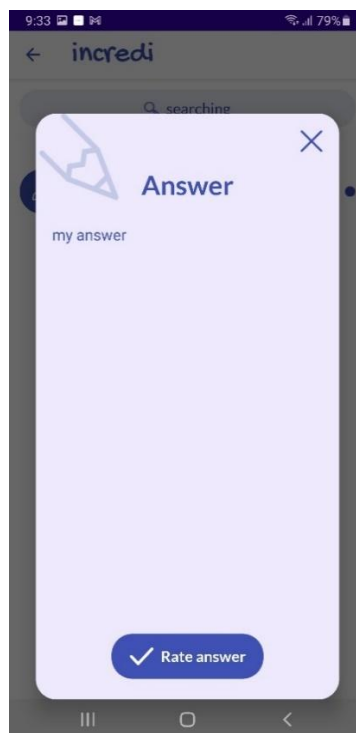


IV.4.2 Evaluation of answers:

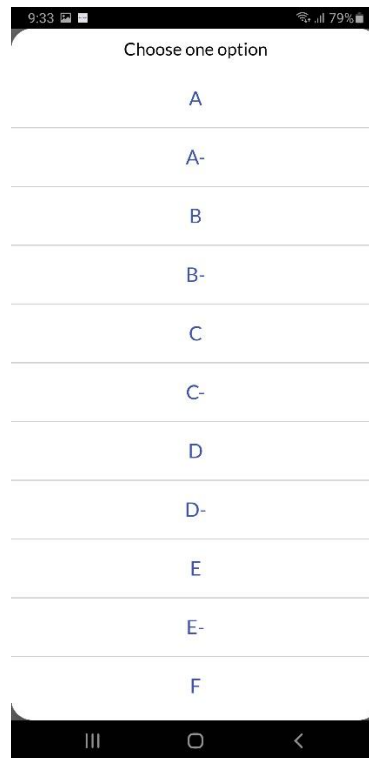
After clicking on the selected exercise, a dialog with options will appear (see section V.7). Subsequently, after clicking on the "Show answers" option displays a list of answers completed by application users.



Clicking on a given answer, the teacher will see the specific answer inserted by the application user.



Clicking the "Rate answer" button will display a dialog with evaluation marks:



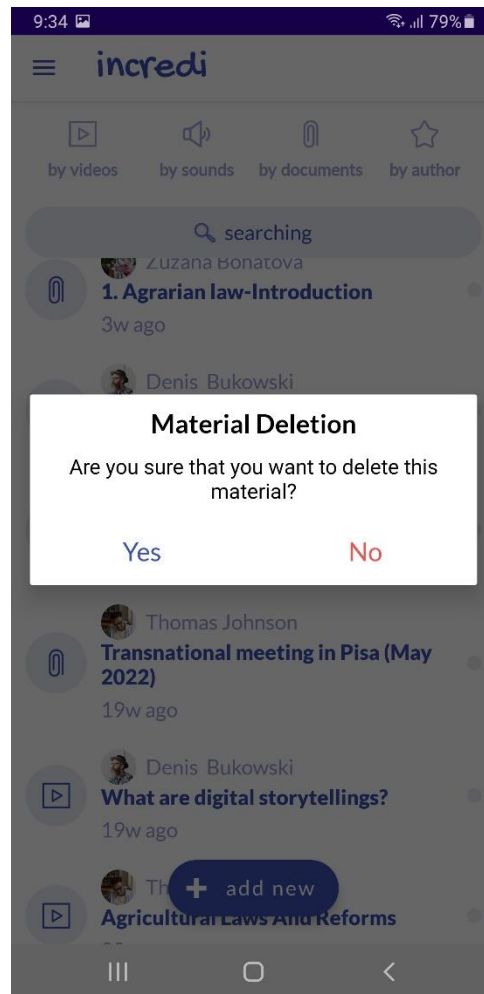
By choosing a grade, the teacher evaluates the selected answer.

Answer rated successfully

IV.5 For teachers – Deleting materials, hot news, tests, live chats and exercises

In the following lines, the method how the teacher can delete the uploaded material from the application will be explained.

In the same way, it is possible to delete hot news, tests, live chats and exercises. In the iOS version, it needs to be done swipe left to reveal the trash icon and tap on that icon. In Android versions, a long click (app. 2 seconds) must be done and following dialog will appear:



After confirming the deletion of the material, the material is deleted on the server and from the application. If it is successful in both places deleting the selected material, the teacher is informed about this status with the following message:



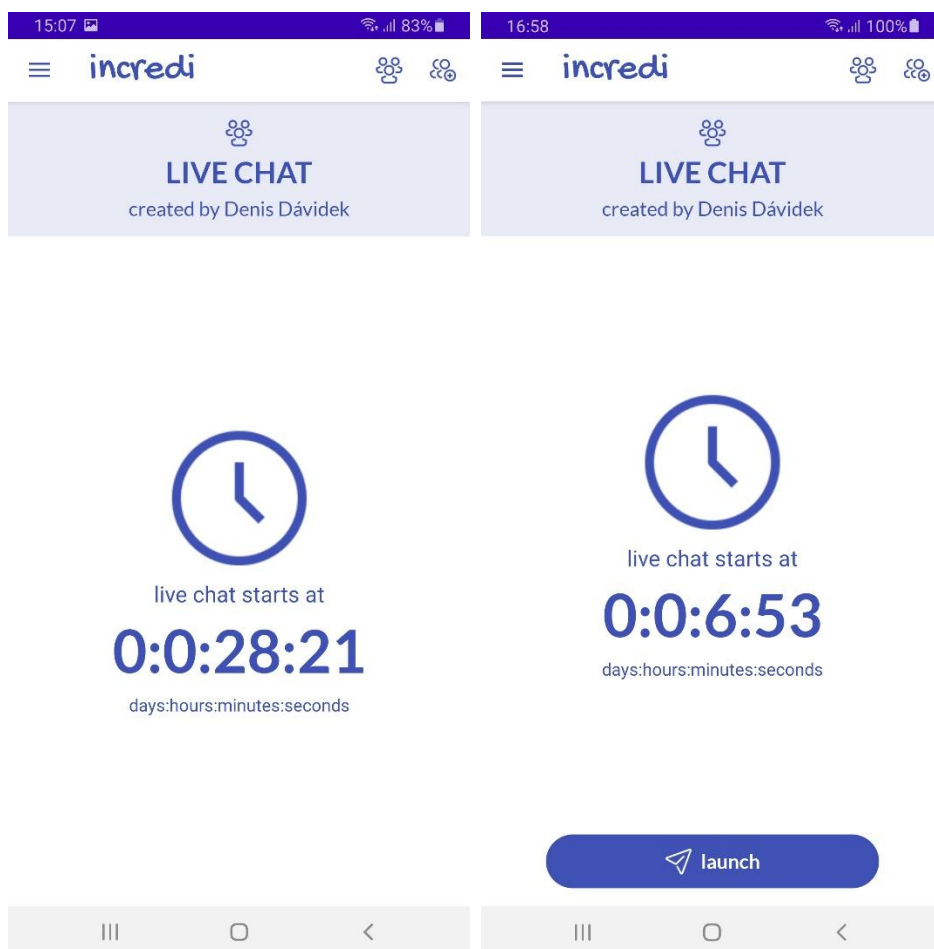
Material deletion successful

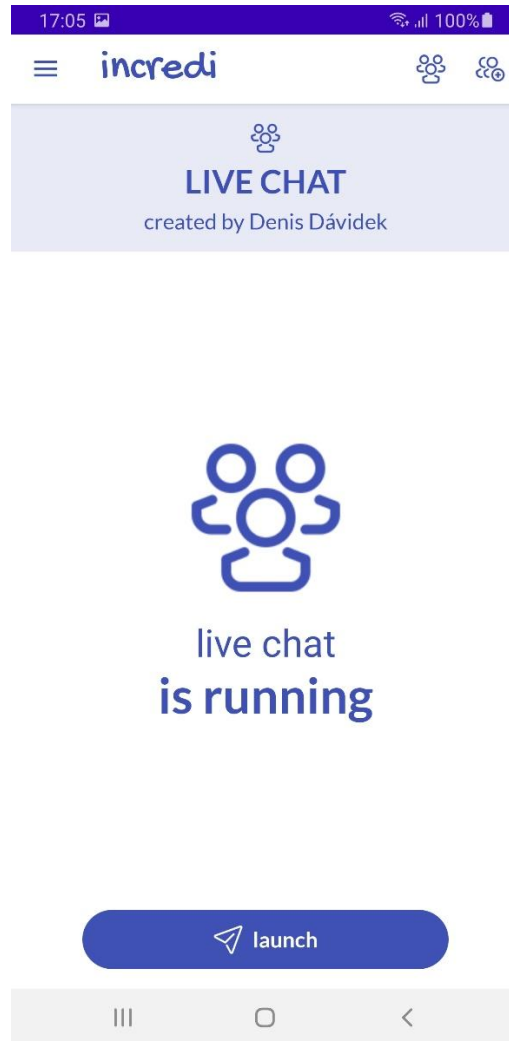
V. Common tools for teachers and students

V.1 Screen Live chat

In this screen, the first scheduled live chat is displayed or the user will see a message that no live chats are currently scheduled. Each live chat can have 4 statuses:

- **CREATED** – the app is counting down
- **LIVE CHAT starts at** - 10 minutes before the live chat starts
- **LIVE CHAT is running** - live chat has officially started
- **TERMINATED** – live chat has finished (30 minutes from the start)


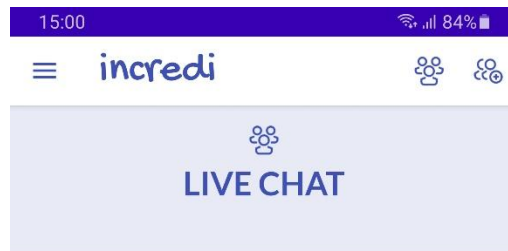




30 minutes after the end of the live chat, this live chat will be deleted from the database. The application considers the live chat to be over (even if it is still ongoing) and it is not possible for participant to join it. If another live chat is scheduled for the user, the application will display the next live chat. If no further live chat is scheduled, the application will show the status "you have no scheduled live chat right now."

The application uses the Google Meet platform. Other functions related to live chat, such as tracking of live chats, countdown, and list of live chats will be provided by the application.

By clicking on the people icon with a plus sign, the user will be able to add live chat screen:

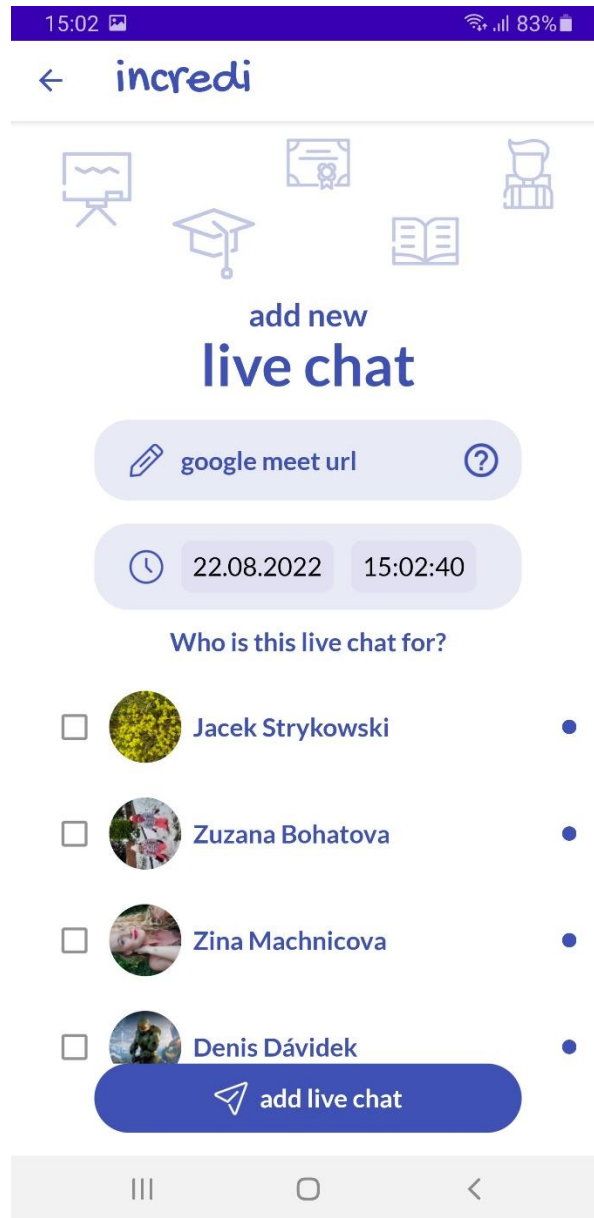


you have no scheduled
live chat right now



V.2 Adding the live chat

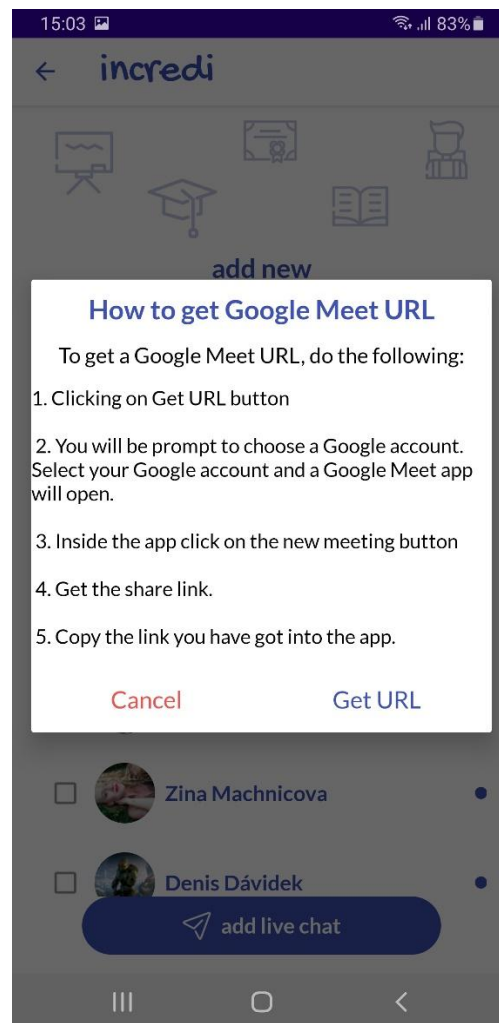
On this screen, the user can add a new live chat to the server, which is then available for selected participants (teachers and students).



To successfully add a new live chat, you need:

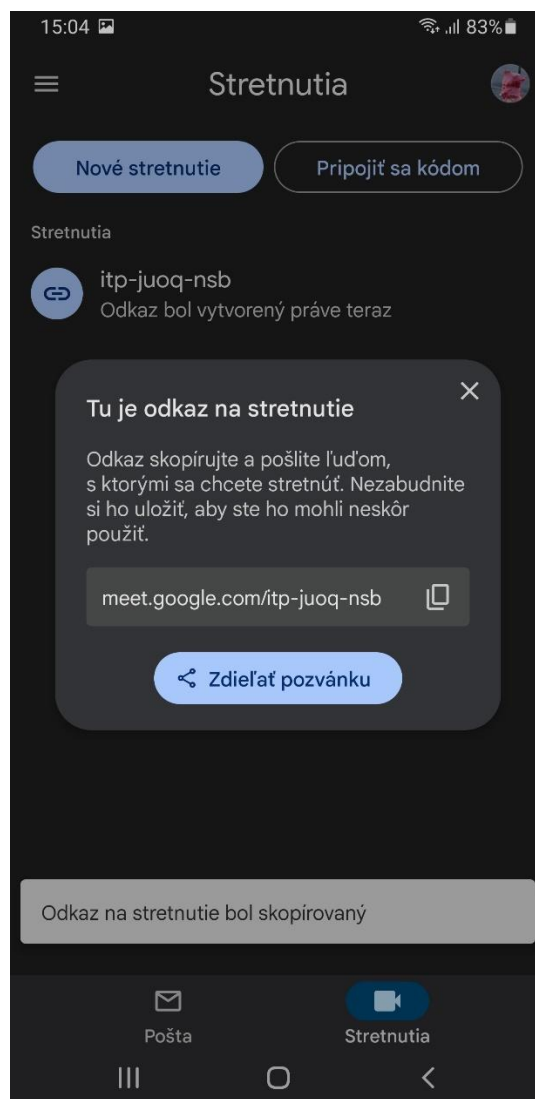
1. Fill in the Google Meet Url:

By clicking on the question mark icon located in the Google box Meet url, a help dialog with instructions is displayed to the user how to get Google Meet Url:



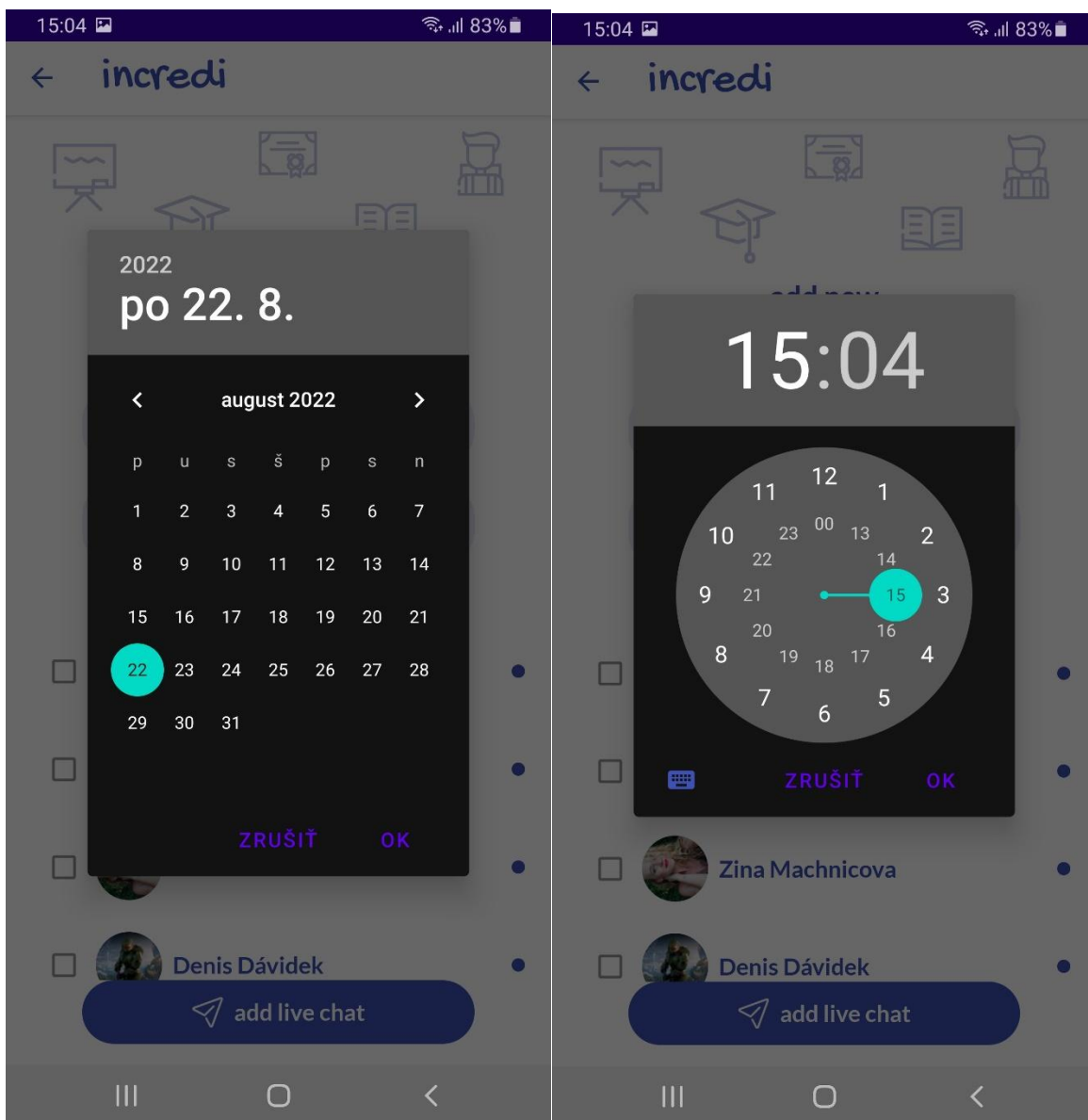
To achieve the Google Meet Ur the following points need to be done:

- a) Click on the Get Url button
- b) Select your Google account and you will be redirected to the Google Meet application
- c) Click on the New meeting button
- d) Copy the meeting link
- e) Paste this copied link into the application



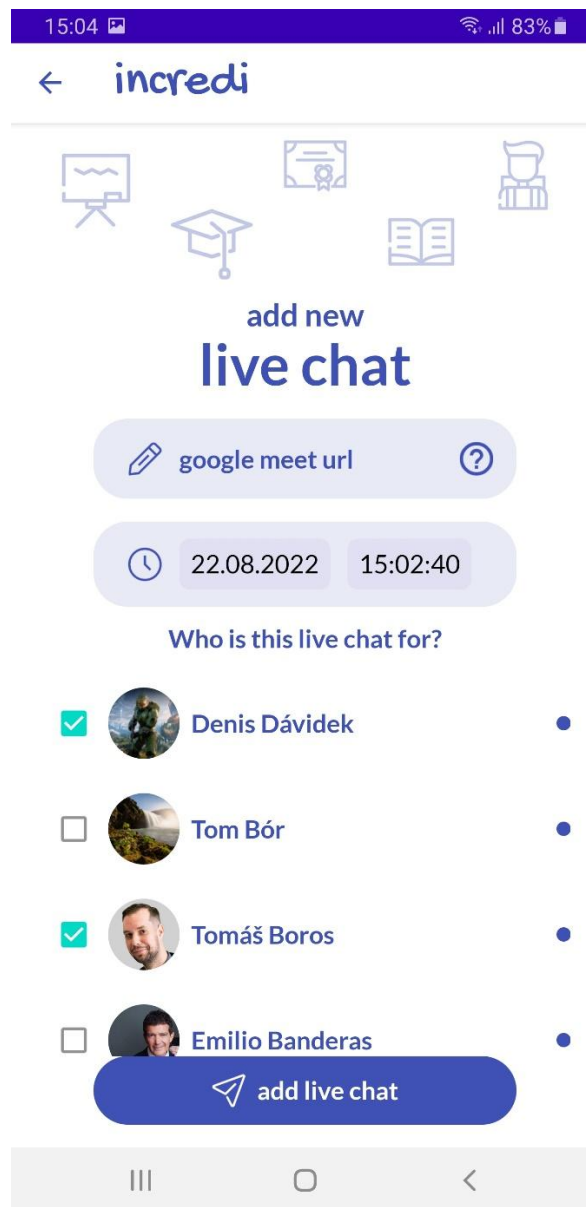
2. Select the date and time of the live chat:

After clicking on the rectangle with the date, the datepicker dialog opens and the user can set the date. When clicking on the rectangle with the time, the timepicker dialog opens and the user can set the time:



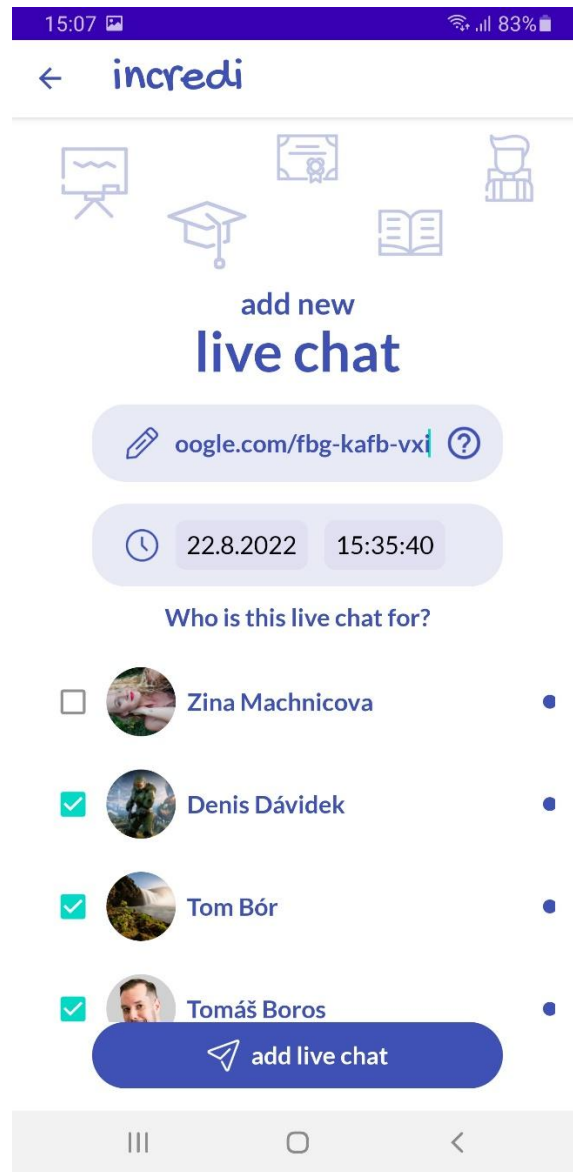
3. Selection of participants of the live chat:

By clicking on a live chat participant, that participant will be added to the list of participants. The green filled checkbox means that the participant is included in the list of participants:



The screenshot shows the 'incredi' app interface. At the top, the status bar displays '15:04', signal strength, Wi-Fi, and 83% battery. Below the status bar is a back arrow and the text 'incredi'. A horizontal line separates the header from the main content. Below the line are five icons: a presentation board, a graduation cap, a diploma, an open book, and a person at a desk. The text 'add new live chat' is centered below the icons. There are three input fields: 'google meet url' with a pencil icon and a help icon, a date and time field showing '22.08.2022' and '15:02:40', and a section titled 'Who is this live chat for?' with a list of participants. Each participant has a checkbox and a profile picture: Denis Dávidek (checked), Tom Bór (unchecked), Tomáš Boros (checked), and Emilio Banderas (unchecked). A blue button with a paper plane icon and the text 'add live chat' is at the bottom. The bottom of the screen shows the Android navigation bar with three icons: a square, a circle, and a triangle.

When all the parameters are filled in, it is necessary to click on the "add live chat" button.

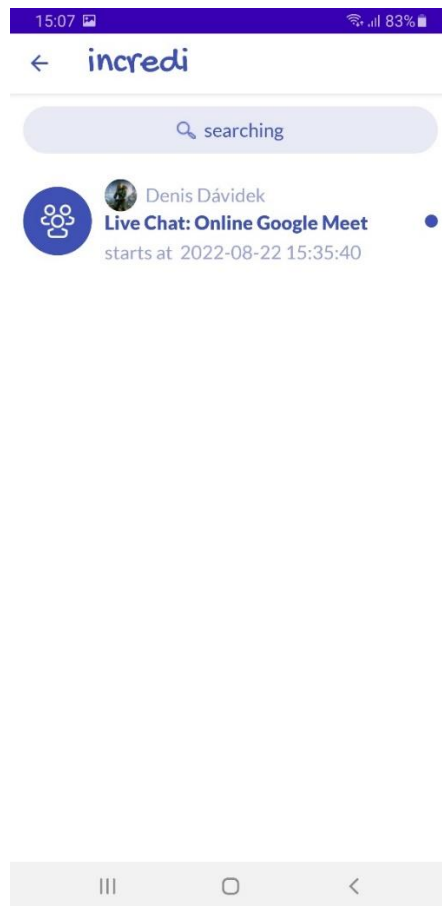


When clicking the "add live chat" button, the live chat will be added to the server. The user is informed about this addition by a message at the bottom of the screen:

Live chat successfully added

V.3 List of live chats

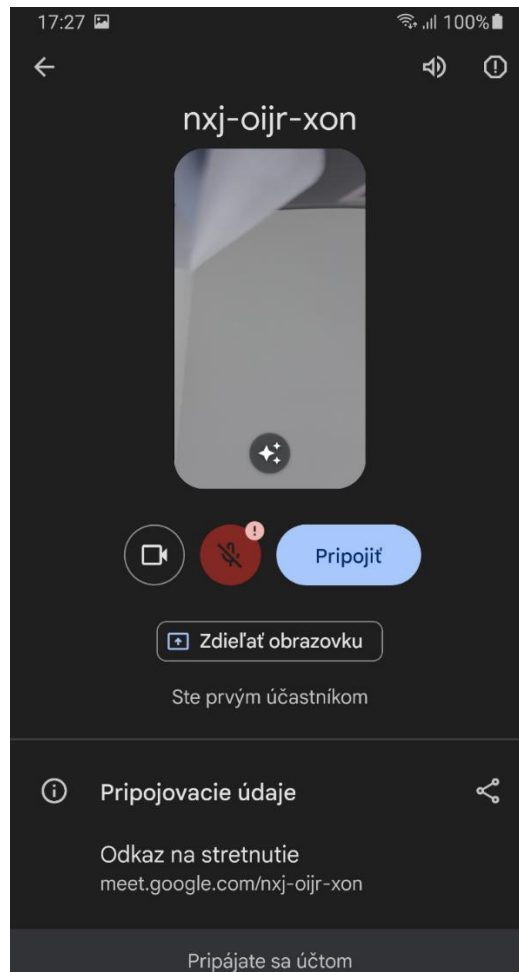
After clicking on the icon with three people in the live chat screen, the live chat list screen will open. In this screen, every user (both teacher and student) can find a list of his scheduled live chats:



V.4 Connecting to the live chat

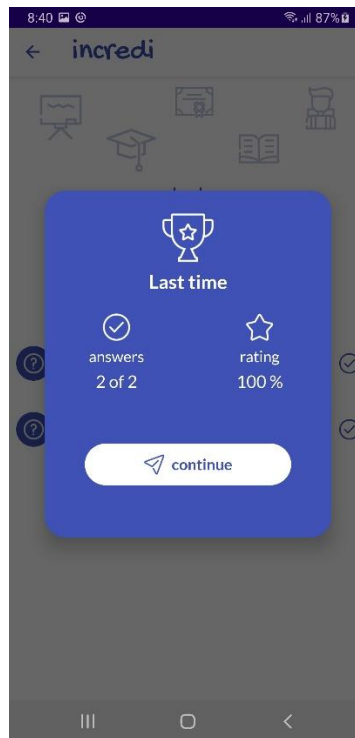
When clicking the launch button, the Google Meet application will open. At this moment, the user is in the lobby room of the live chat. If

the user wants to participate in the scheduled live chat, he must click the "Join" button:



V.5 Trial test

After clicking the „Run test“ button, the application will offer the option to perform the trial test. For each question, it is necessary to mark the correct answer by clicking on the given answer in the same way as during the creation of the test. After completion of the test, the application will show the rating dialog with the test rating to the user:



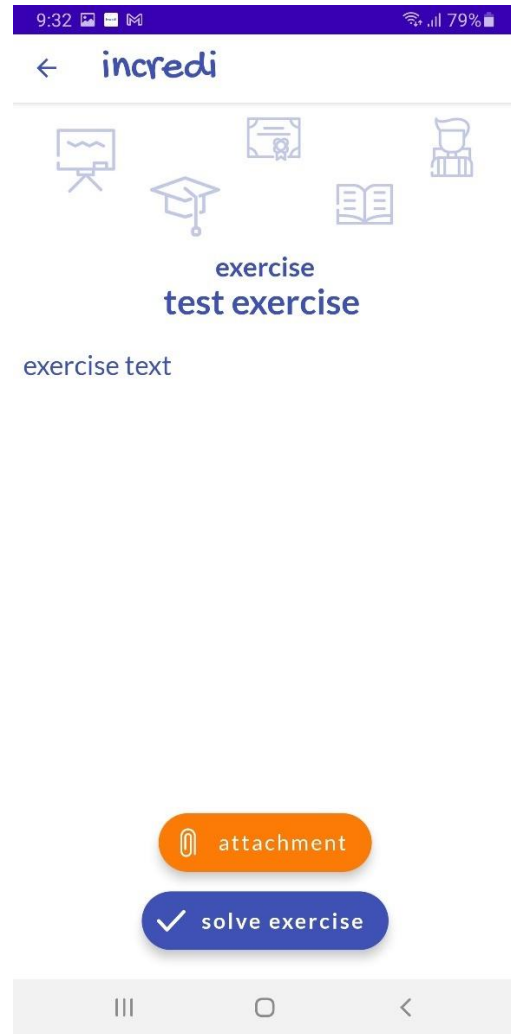
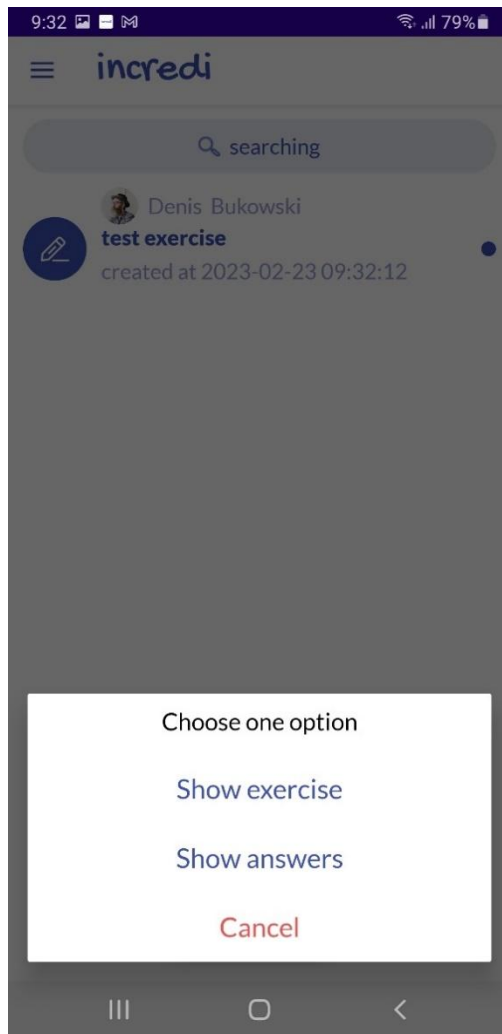
V.6 Rating of the selected test

After clicking the „Show ratings“ button, the application will show all ratings realized so far for the selected test to the user:



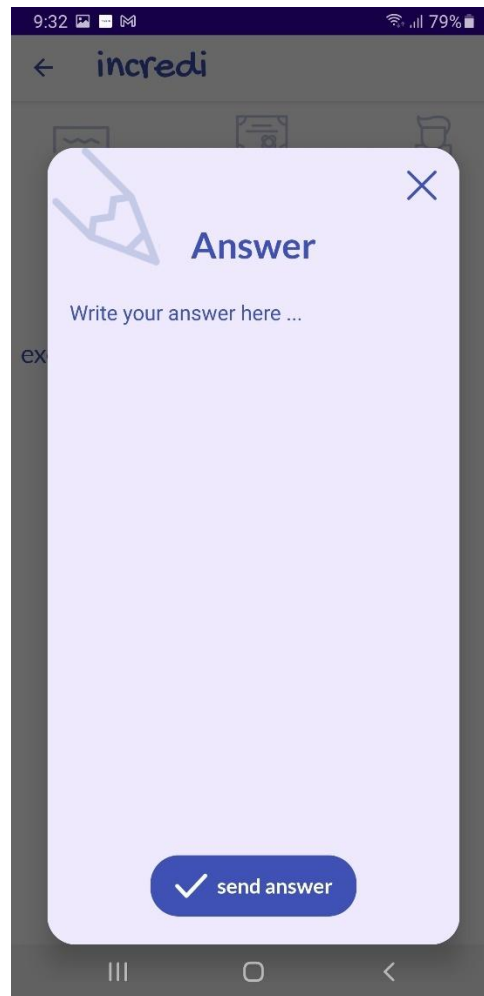
V.7 Displaying the selected exercise

After clicking on the selected exercise, a dialog with options will appear. Subsequently, after clicking on the option "Show exercise" the application will show the user a detail of the selected exercise:



V.8 Elaboration of the selected exercise

In the screen „exercise detail“, the user has everything he needs to elaborate the exercise. After clicking on the button "solve exercise", a dialog where the user can write the answer to the given exercise will be displayed.



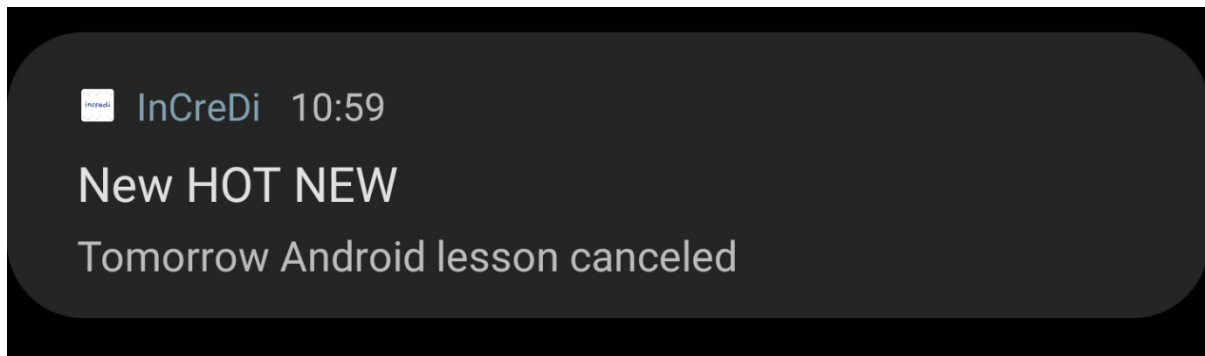
By clicking the button "send answer", the answer will be sent to server. If the submission is successful, the user will be notified by the following message:

Your exercise answer has been successfully added

V.9 Information push notification messages

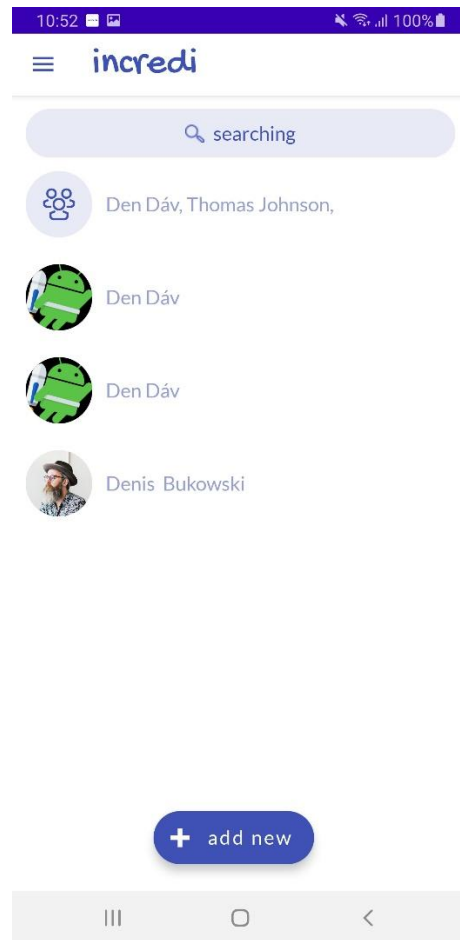
In some cases (e.g. uploading new material by the teacher, adding new hot news, etc.) a push message will be sent to users.

If in a short period of time multiple informational push messages will be sent, only the last one will be displayed.



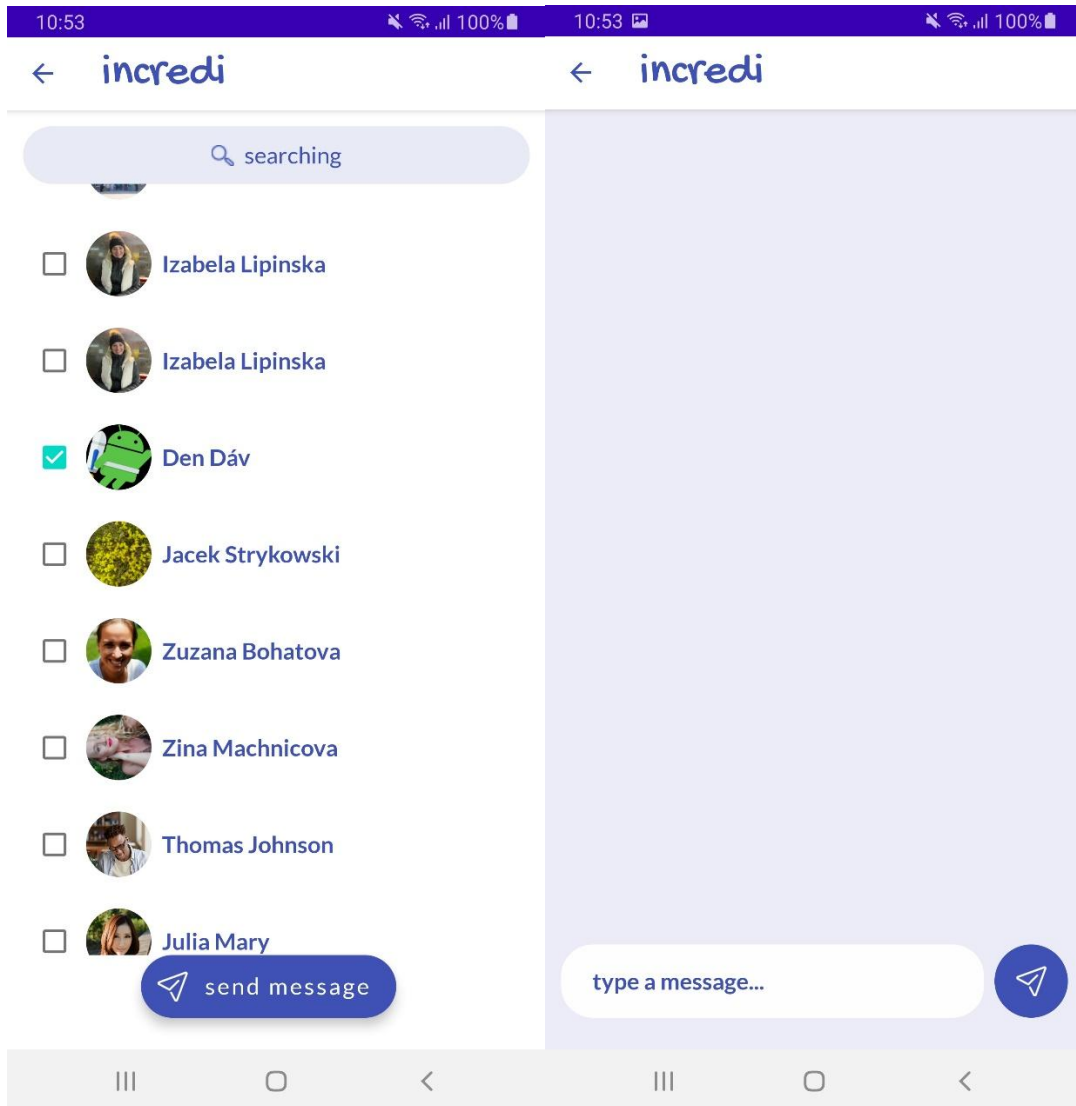
V.10 The Chat Messages Screen

By selecting chat messages in the application menu, the user gets to the chat messages section, where all current conversations of the logged-in user are displayed. If the given conversation exists with one participant, it has the icon of the given participant. If there are more participants, then such a conversation has an icon of 3 people in a circle, which evokes that it is a group - that is, a group chat:

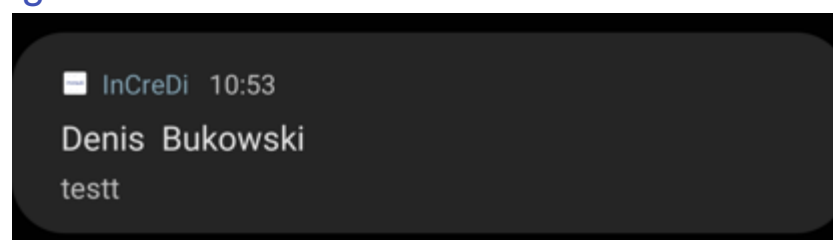


V.11 Selecting the participants of the future conversation

By clicking on the add new button, a list of users with whom it is possible to establish communication will open. Clicking on the send message button opens a screen with a form for sending a message to the selected participants, thus creating a conversation between the author and the selected participants:



By writing a message and clicking the circular blue button at the bottom right, the given message will be sent to all participants and the author of the given conversation. All participants, together with the author, will be informed about this new sent message by an informational push notification message:



V.12 Existing conversation of selected conversation participants

Messages written by a logged in user are displayed on the right side of the screen. Messages written by other conversation participants are displayed in the left part of the screen. Each message consists of text, the time when it was sent and a picture of the sender:

