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Отчёт по лабораторной работе №4
по курсу «ПиКЯП»

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Тема: углубиться в тему создания приложений для Android, познакомиться с созданием UI, познакомиться со средой разработки. Создать простой список с кликабельными элементами, которые раскрывались при нажатии.

Изначально, программа делалась для имитации мессенджера, потом была переделана под пути для карты.

Код программы:

MainActivity.kt

```
package com.example.learningui

import android.os.Bundle
import androidx.activity.ComponentActivity
import androidx.activity.compose.setContent
import androidx.compose.animation.animateColorAsState
import androidx.compose.animation.animateContentSize
import androidx.compose.foundation.Image
import androidx.compose.foundation.border
import androidx.compose.foundation.clickable
import androidx.compose.foundation.layout.Column
import androidx.compose.foundation.layout.Row
import androidx.compose.foundation.layout.Spacer
import androidx.compose.foundation.layout.height
import androidx.compose.foundation.layout.padding
import androidx.compose.foundation.layout.size
import androidx.compose.foundation.layout.width
import androidx.compose.foundation.lazy.LazyColumn
import androidx.compose.foundation.lazy.items
import androidx.compose.foundation.shape.CircleShape
import androidx.compose.material3.MaterialTheme
import androidx.compose.material3.Surface
import androidx.compose.material3.Text
import androidx.compose.runtime.Composable
import androidx.compose.runtime.getValue
import androidx.compose.runtime.mutableStateOf
import androidx.compose.runtime.remember
import androidx.compose.runtime.setValue
import androidx.compose.ui.Modifier
import androidx.compose.ui.draw.clip
import androidx.compose.ui.graphics.painter.Painter
import androidx.compose.ui.res.painterResource
import androidx.compose.ui.tooling.preview.Preview
import androidx.compose.ui.unit.dp
import com.example.learningui.ui.theme.LearningUITheme

class MainActivity : ComponentActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContent {
            LearningUITheme {
                Conversation(SampleData.conversationSample)
            }
        }
    }
}

@Preview
data class Message(val author: String, val body: String)
```

```

@Composable
fun MessageCard(msg: Message) {

    //icons for every type of commute
    val users = mapOf<String, Painter>(
        "Metro" to painterResource(R.drawable.profile_metro),
        "Bus" to painterResource(R.drawable.profile_bus),
        "Walk" to painterResource(R.drawable.profile_walk)
    )

    Row (modifier = Modifier.padding(all = 8.dp)) {
        Image(
            painter = users[msg.author]!!,
            contentDescription = null,
            modifier = Modifier
                //set image size to 40 dp and
                //clip image to be shaped as a circle
                .size(40.dp)
                .clip(CircleShape)
                .border(1.5.dp, MaterialTheme.colorScheme.primary,
CircleShape)
        )
        Spacer(modifier = Modifier.width(8.dp))

        var isExpanded by remember { mutableStateOf(false) }
        //surfaceColor will be updated gradually from one color to another
        val surfaceColor by animateColorAsState(
            if (isExpanded) MaterialTheme.colorScheme.primary else
MaterialTheme.colorScheme.surface,
        )

        //toggle the isExpanded when we click on this Column
        //all of the text handling -> msg.author, msg.body and the
expansion of the message
        //expansion changes -> color and size of the text
        Column (modifier = Modifier.clickable {isExpanded = !isExpanded}) {
            Text(
                text = msg.author,
                color = MaterialTheme.colorScheme.secondary,
                style = MaterialTheme.typography.titleSmall
            )
            //add a vertical space between the author and message text
            Spacer(modifier = Modifier.height(4.dp))

            Surface (
                shape = MaterialTheme.shapes.medium,
                shadowElevation = 1.dp,
                color = surfaceColor,
                modifier = Modifier.animateContentSize().padding(1.dp)
            ) {
                Text(
                    text = msg.body,
                    modifier = Modifier.padding(all=4.dp),
                    maxLines = if (isExpanded) Int.MAX_VALUE else 1,
                    style = MaterialTheme.typography.bodyMedium
                )
            }
        }
    }
}

```

```

@Composable
fun Conversation(message: List<Message>) {
    LazyColumn {
        items(message) { message ->
            MessageCard(message)
        }
    }
}

@Preview
@Composable
fun PreviewConversation() {
    LearningUITheme {
        Conversation(SampleData.conversationSample)
    }
}

```

SampleData.kt

```

package com.example.learningui
/**
 * SampleData for Jetpack Compose Tutorial
 */
object SampleData {
    // Sample conversation data
    val conversationSample = listOf(Message(
        "Metro",
        """Metro 3 min
            |Kutuzovskaya station - Kievskaya station
            |Kievskaya station - Studencheskaya
station""".trimMargin().trim()
    ),
        Message(
            "Bus",
            """Bus 6 min number 256
            |Kutuzovskiy prospekt - Studencheskaya
station""".trimMargin().trim()
        ),
        Message(
            "Walk",
            """Walking 10 min
            |Kutuzovskiy prospekt -Nebulny street
            |Malaya Bronnaya - Studencheskaya
station""".trimMargin().trim()
        )
    )
}

```

Результат работы:

10:51 A



Metro

Metro 3 min



Bus

Bus 6 min number 256



Walk

Walking 10 min

10:52 A



Metro

Metro 3 min

Kutuzovskaya station - Kievskaya station

Kievskaya station - Studencheskaya station



Bus

Bus 6 min number 256



Walk

Walking 10 min

Kutuzovskiy prospekt -Nebulny street

Malaya Bronnaya - Studencheskaya station