

The background features a light blue rectangular area with a pattern of green dollar signs (\$). This area is framed by solid blue bars at the top and bottom. The text is centered within the light blue area.

# GIVE 10

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ANDROID APP DEVELOPMENT / FALL 2020

# SPLASH SCREEN

Gives the app an extra  
few seconds to set up



# About Give 10



**Ever find it hard to keep track of how much Maaser\* money you owe?**

Give 10 is a charity tracking app that allows users to track how much Maaser money they owe based on their income.

The app calculates based on the minimum 10% requirement. User adds money upon receiving income and gives charity.

Total owed is displayed on the home screen. User can view a summary of their transactions as well.

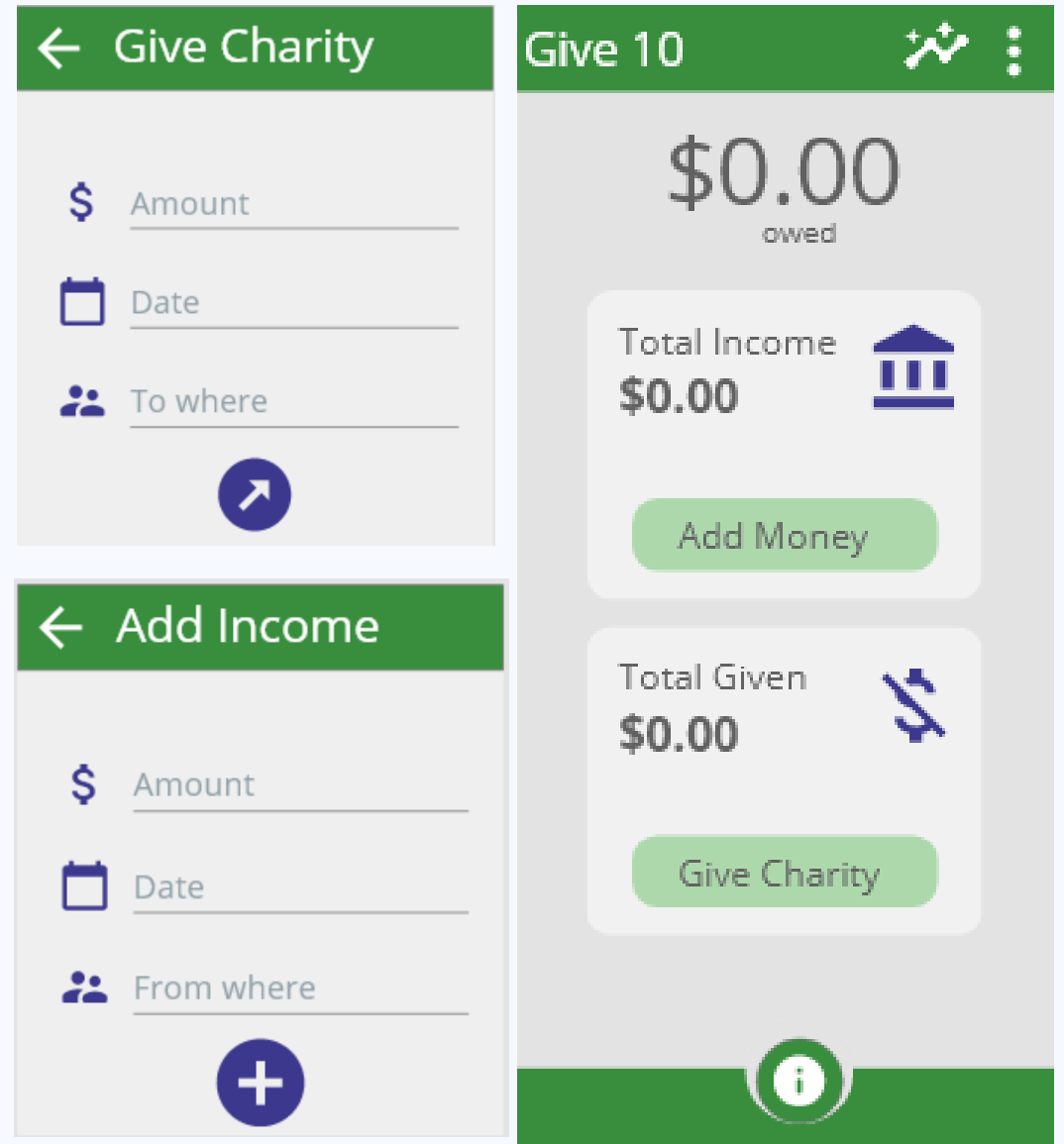
\*The obligation to give charity according to Jewish law

# PROTOTYPING APP LAYOUT

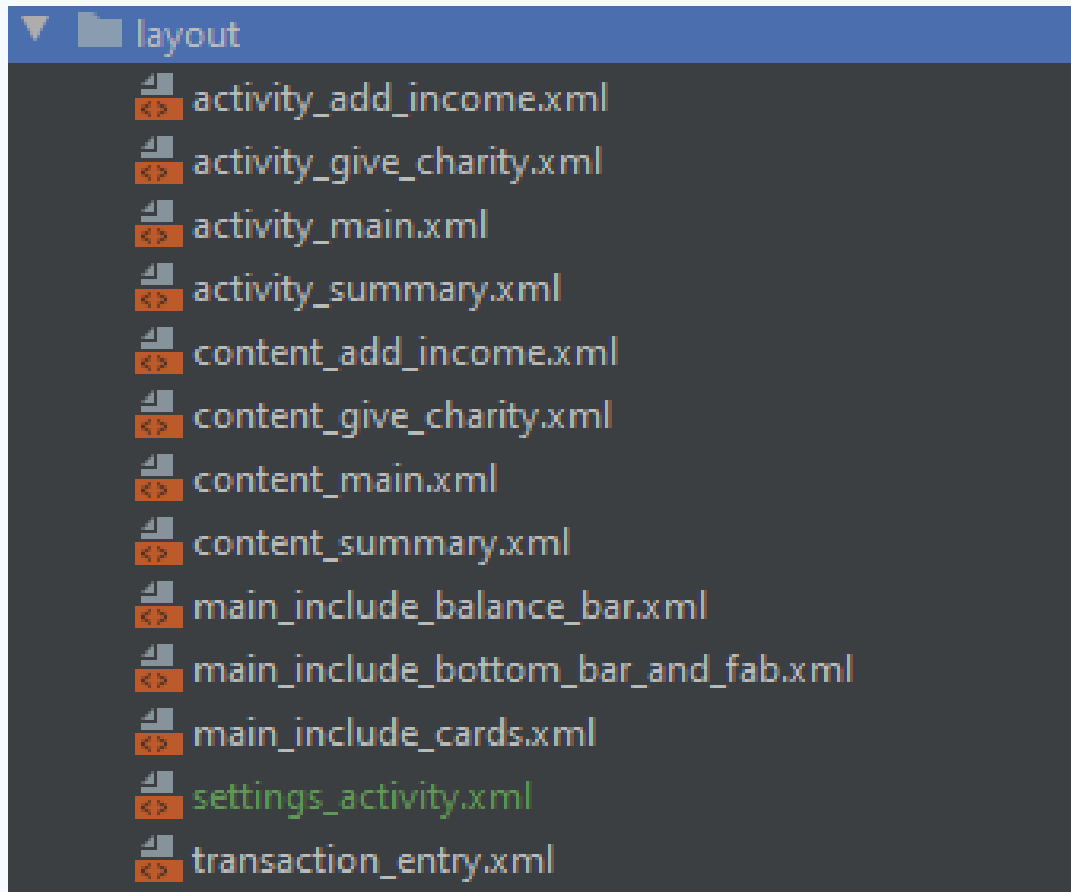
Created layouts for main activity, add income and give charity activities using



Layouts in android studio look slightly different based on what I was able to do in Android Studio



# CREATING LAYOUTS USING XML



## MAIN ACTIVITY

- Contains balance\_bar, bottom\_bar\_and\_fab, add\_income and give\_charity cards

## ADD INCOME

- Adds income to balance and updates owed amount to 10% of added amount

## GIVE CHARITY

- Gives charity from balance and updates owed amount based on given amount.

## SUMMARY ACTIVITY

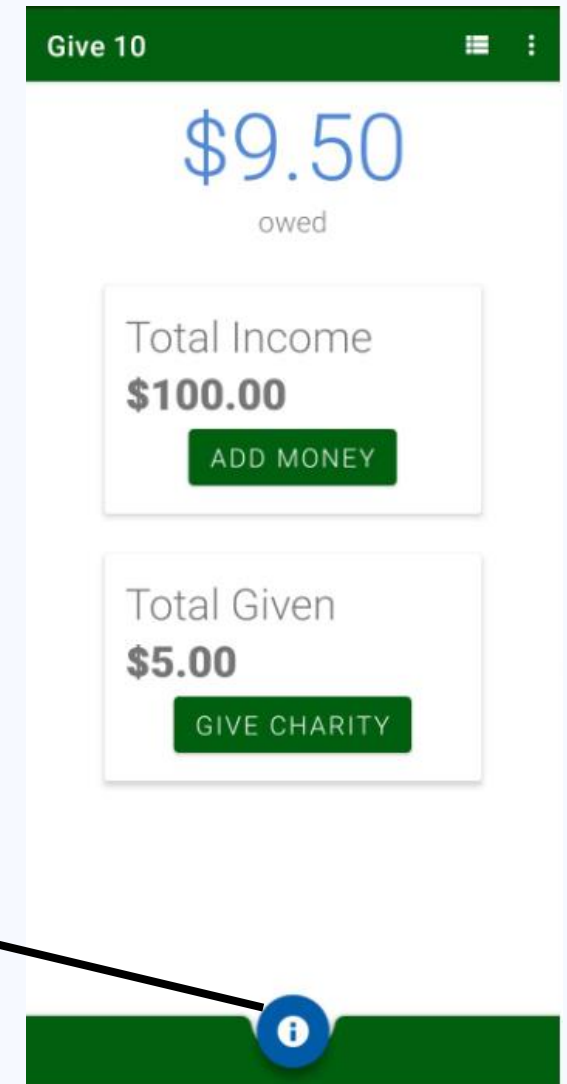
- Contains recycler view of past transactions – transaction\_entry

# MAIN ACTIVITY

**updateTextViews()** occurs each time user adds income or gives charity

```
private void updateTextViews() {  
    mOwed.setText(String.format(Locale.getDefault(), format: "%.2f", mGive10.getAmountOwed()));  
    mTotalIncome.setText(String.format(Locale.getDefault(), format: "%.2f", mGive10.getIncome()));  
    mTotalGiven.setText(String.format(Locale.getDefault(), format: "%.2f", mGive10.getCharity()));  
}
```

- **AMOUNT OWED**  
Updates amount owed based on total income \* 10% - charity given
- **TOTAL INCOME**
- **TOTAL GIVEN**
- **INFO DIALOG**



## About Give 10

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OK

# ADD INCOME / GIVE CHARITY

1. Amount takes a double

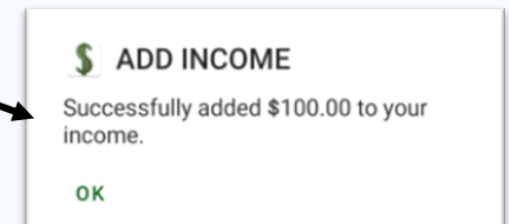
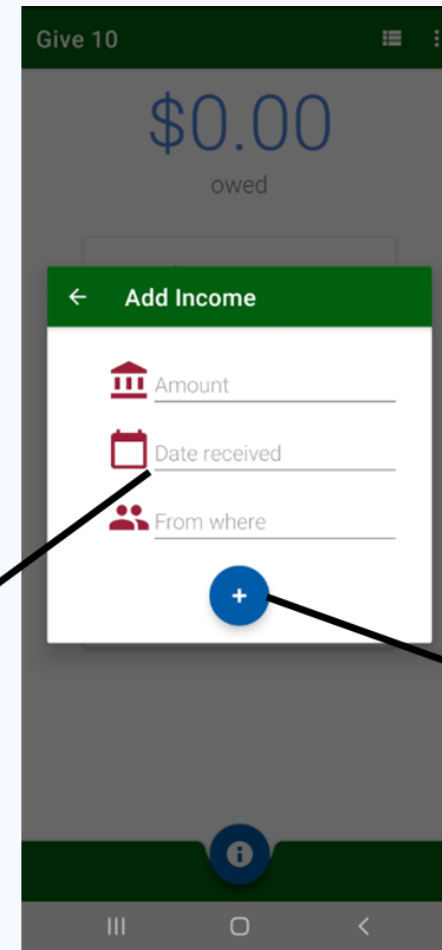
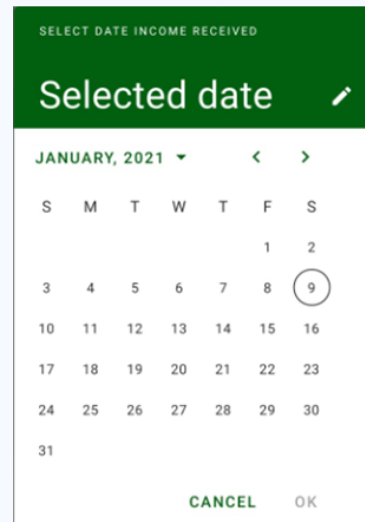
2. Date received

An EditText that opens a DatePicker when clicked

3. Source/Destination

When user clicks button, add income calls **createNewTransaction()**

```
private void createNewTransaction() {  
    String amount = mAddAmount.getText().toString();  
    double dblAmount = Double.parseDouble(amount);  
    String date = mAddDate.getText().toString();  
    String src = addSource.getText().toString();  
  
    mTransactionList.add(  
        new Transaction(TransactionType.INCOME, dblAmount, date, src));  
}
```



# TRANSACTIONS

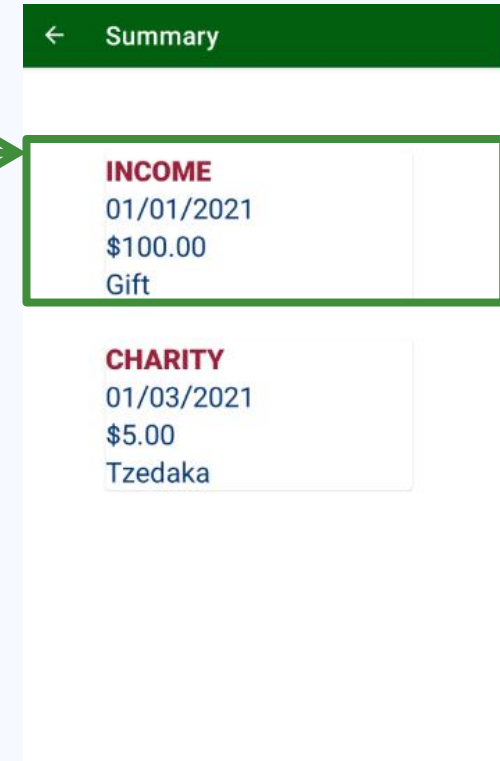
## ACTIVITY – XML – APP

```
public class SummaryActivity extends AppCompatActivity {  
  
    private Give10 mGive10;  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {...}  
  
    private void getIncomingData() {...}  
  
    private void setupRV() {...}  
  
    private void setupToolbar() {...}  
  
    @Override  
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {  
        if (item.getItemId() == android.R.id.home) {...} else  
            return super.onOptionsItemSelected(item);  
    }  
}
```

Main summary activity which gets incoming data from AddIncome or GiveCharity

```
<com.google.android.material.card.MaterialCardView xmlns:android="  
    xmlns:app="http://schemas.android.com/apk/res-auto"  
    xmlns:tools="http://schemas.android.com/tools"  
    android:id="@+id/transaction_cards"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_margin="16dp"  
    android:elevation="4dp"  
    app:cardCornerRadius="4dp">  
  
    <androidx.constraintlayout.widget.ConstraintLayout  
        android:id="@+id/transaction_constraint"  
        android:layout_width="300dp"  
        android:layout_height="wrap_content" >  
  
        <TextView  
            android:id="@+id/tv_transaction_type"  
            android:textSize="24dp"  
            android:layout_width="wrap_content"  
            android:layout_height="wrap_content"  
            android:fontFamily="sans-serif-black"  
            app:layout_constraintStart_toStartOf="parent"  
            app:layout_constraintTop_toTopOf="parent"  
            android:textColor="@color/accentColor"  
            android:text="Transaction" />
```

Each transaction in the RecyclerView (in content\_summary) is a CardView that contains information about the transaction





# TRANSACTIONS CLASSES

## Transaction.java

```
public class Transactions {  
  
    private String transaction;  
    private String amount;  
    private String date;  
    private String description;  
  
    public Transactions(String transaction, String amount, String date, String description) {  
        this.transaction = transaction;  
        this.amount = amount;  
        this.date = date;  
        this.description = description;  
    }  
}
```

The Transaction class contains constructor, getters and setters.  
A new transaction is created each time an add income or give charity is processed.

# TRANSACTIONS CLASSES

## TransactionAdapter.java

```
public class TransactionAdapter extends RecyclerView.Adapter<TransactionViewHolder> {  
  
    /*...*/  
    private final ArrayList<Transaction> mTransactions;  
  
    @{@...}  
    public TransactionViewHolder onCreateViewHolder(@NonNull ViewGroup parent, int viewType) {...}  
  
    public TransactionAdapter(List<Transaction> transactions) {...}  
  
    @Override  
    public void onBindViewHolder(@NonNull TransactionViewHolder holder, int position) {...}  
  
    @Override  
    public int getItemCount() { return mTransactions.size(); }  
}
```

Stores an ArrayList of transactions the user performed, sets each field in TransactionHolder to the transaction information and determines how many transactions will appear in RecyclerView based on content.

# TRANSACTIONS CLASSES

## TransactionViewHolder.java

```
public class TransactionViewHolder extends RecyclerView.ViewHolder implements View.OnClickListener{  
    public TextView tv_transaction_type, tv_transaction_date, tv_transaction_amount, tv_description;  
  
    public TransactionViewHolder(@NonNull View itemView) {...}  
  
    @Override  
    public void onClick(View v) {}  
}
```

Holds each information field that transaction displays which is utilized by TransactionAdapter

# MENU

## SUMMARY

- Contains transaction log

## SAVE TRANSACTIONS

- When checked, saves transactions between app uses  
☰ to clear transactions, uncheck and restart the app

## ABOUT

- Displays “about” dialog

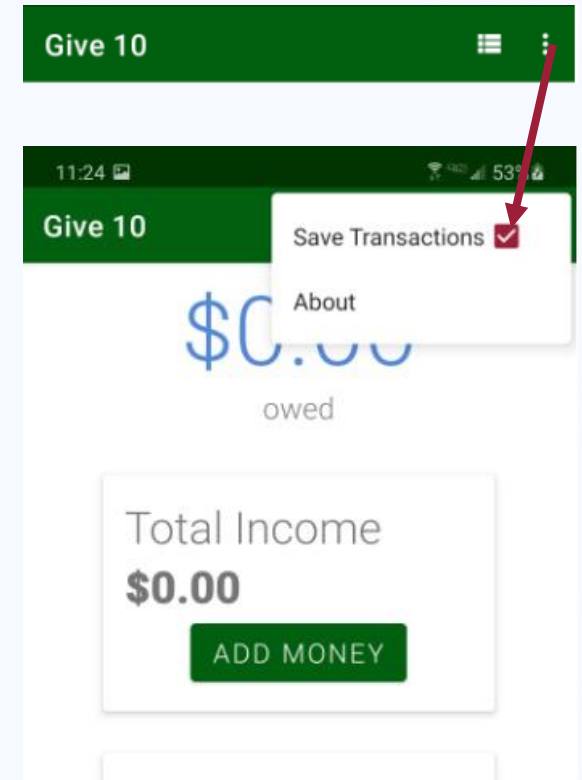
```
<menu xmlns:android="http://schemas.android.com/apk/res/android"
      xmlns:app="http://schemas.android.com/apk/res-auto"
      xmlns:tools="http://schemas.android.com/tools"
      tools:context="com.example.give10.activities.MainActivity">

    <item
        android:id="@+id/summary"
        android:icon="@drawable/ic_baseline_view_list_24"
        android:orderInCategory="200"
        android:title="Summary"
        app:showAsAction="ifRoom|withText"/>

    <item
        android:id="@+id/auto_save"
        android:checkable="true"
        android:title="Save Transactions"
        app:showAsAction="never"/>

    <item
        android:id="@+id/about"
        android:orderInCategory="300"
        android:title="About"
        app:showAsAction="never"/>

</menu>
```





# LANDSCAPE MODE

Modified landscape layouts for main cards, add income activity, give charity activity and transaction entries to adjust properly when phone is rotated

1:42 28%

Give 10 SUMMARY

\$9.50 owed

Total Income	Total Given
\$100.00	\$5.00
ADD MONEY	GIVE CHARITY

i

1:43 28%

Give 10 SUMMARY

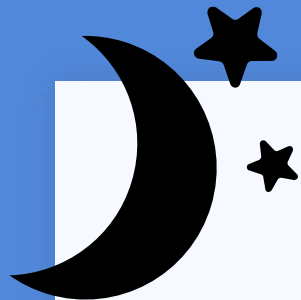
← Add Income

\$ Amount

Date received

From where

+



# NIGHT MODE

Changed default background colors in values-night/colors to a dark shade of gray to display dark mode.

