

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.

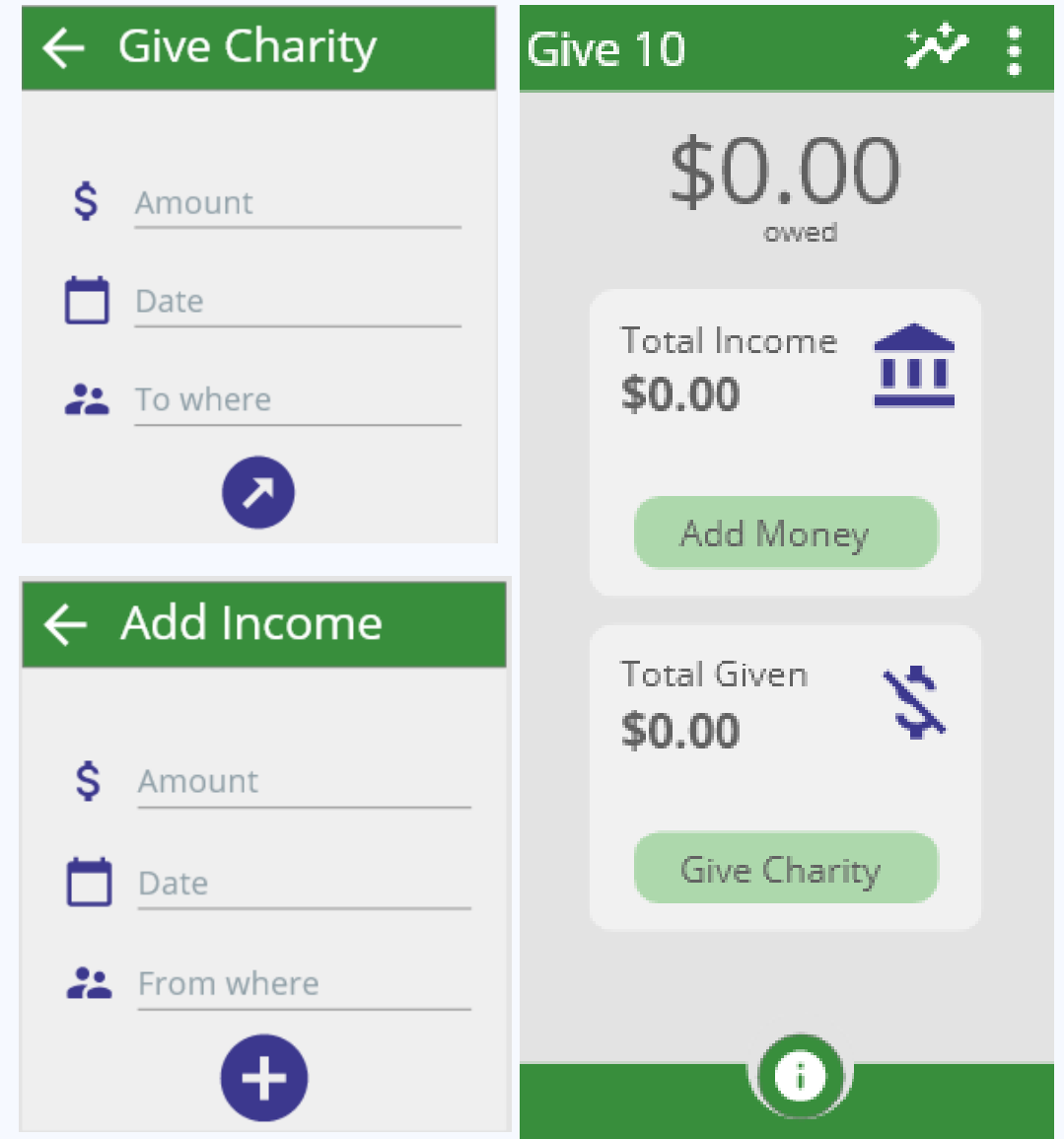
*The obligation to give charity according to Jewish law

PROTOTYPING APP LAYOUT

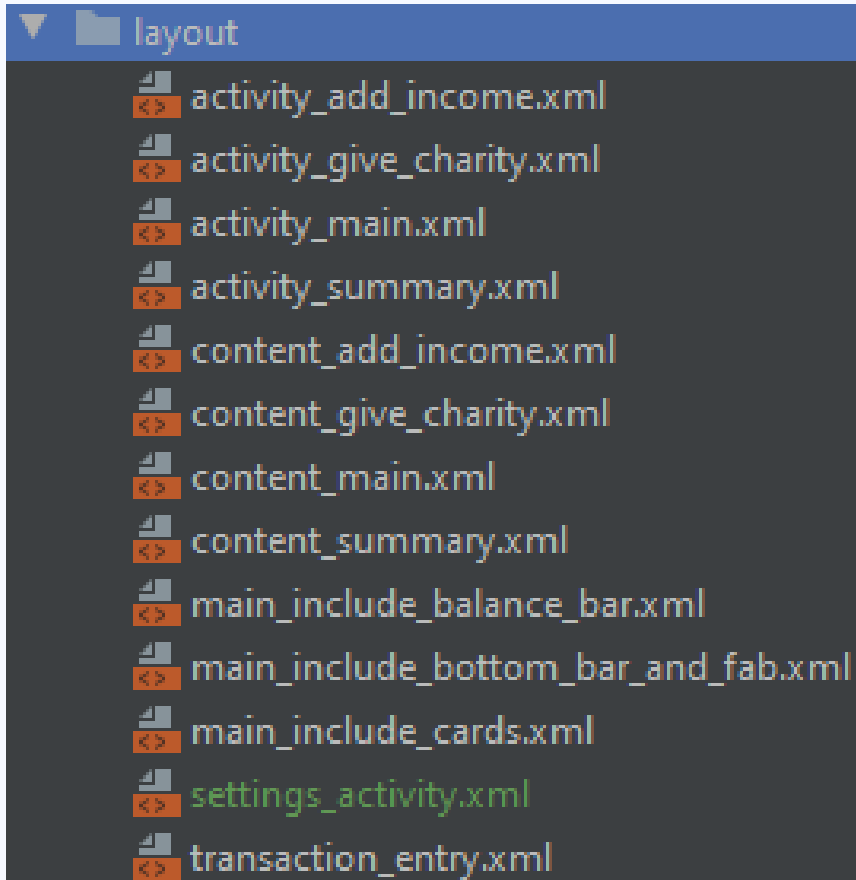
Created layouts for main activity, add income and give charity activities using



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

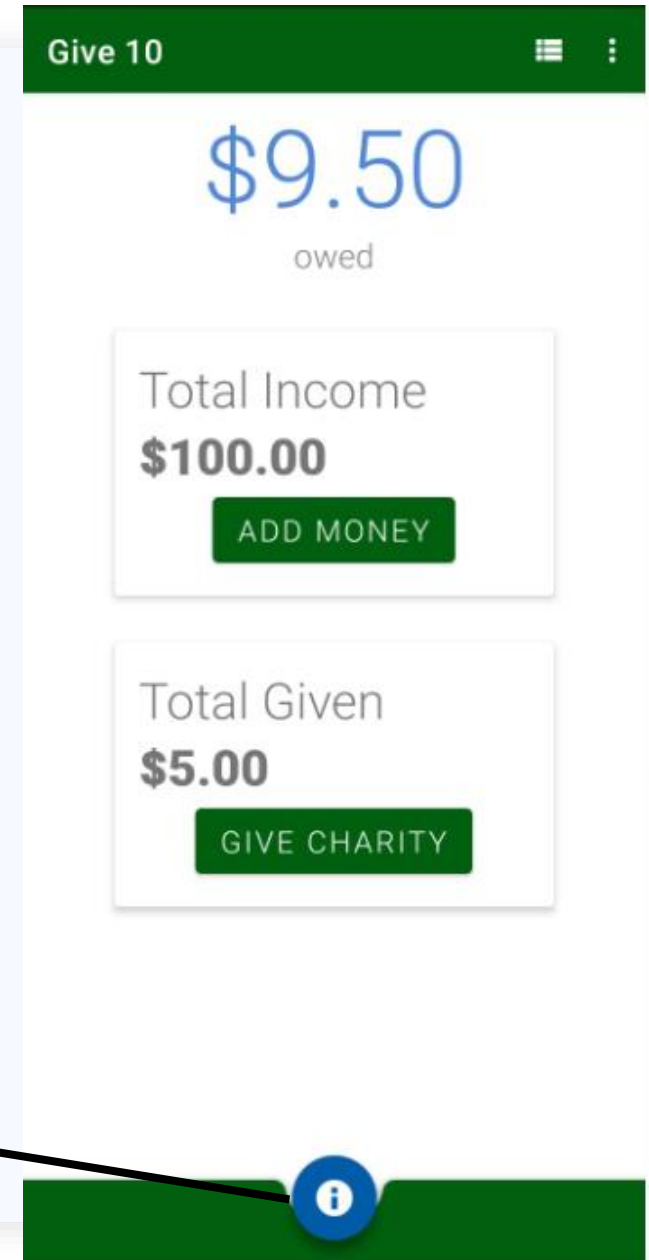
- Contains recycler view of past transactions – `transaction_entry`

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**



ADD INCOME / GIVE CHARITY

1. Amount takes a double

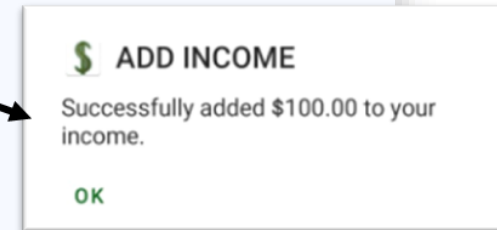
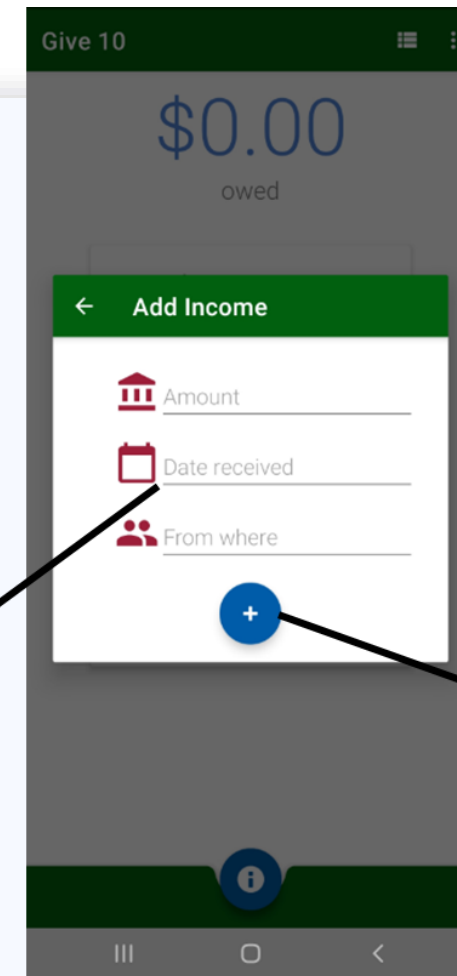
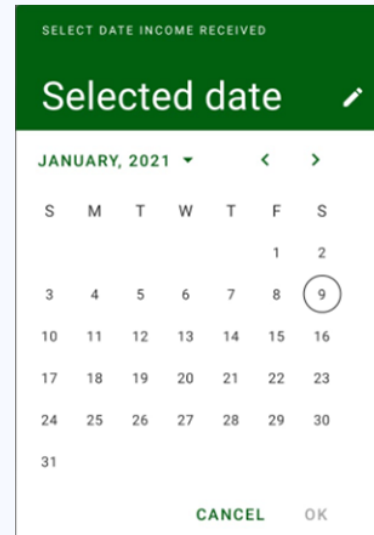
2. Date received

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

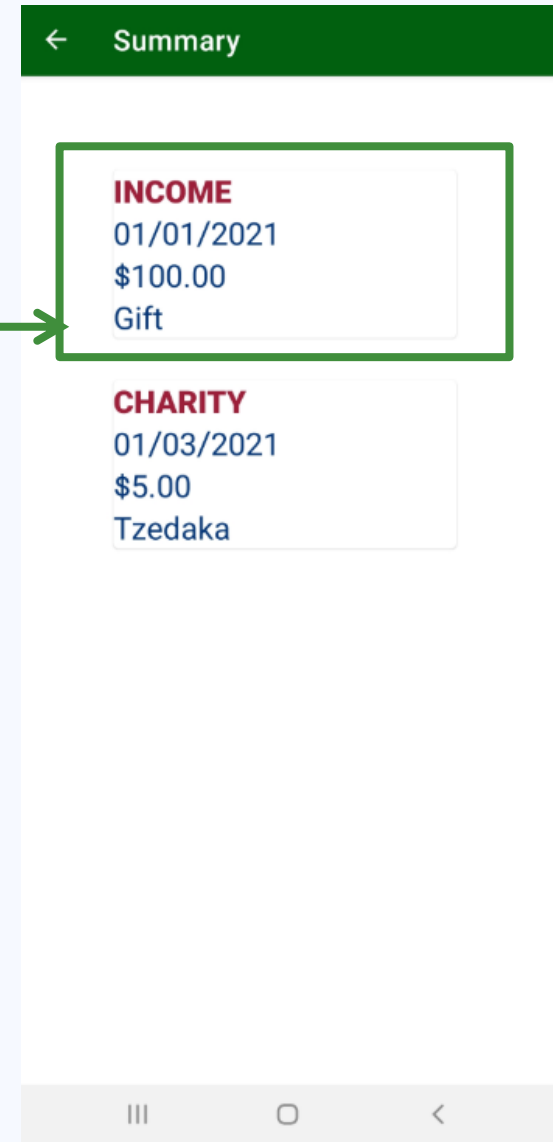
ACTIVITY – XML – APP

```
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;  
    }  
}
```

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

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.

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

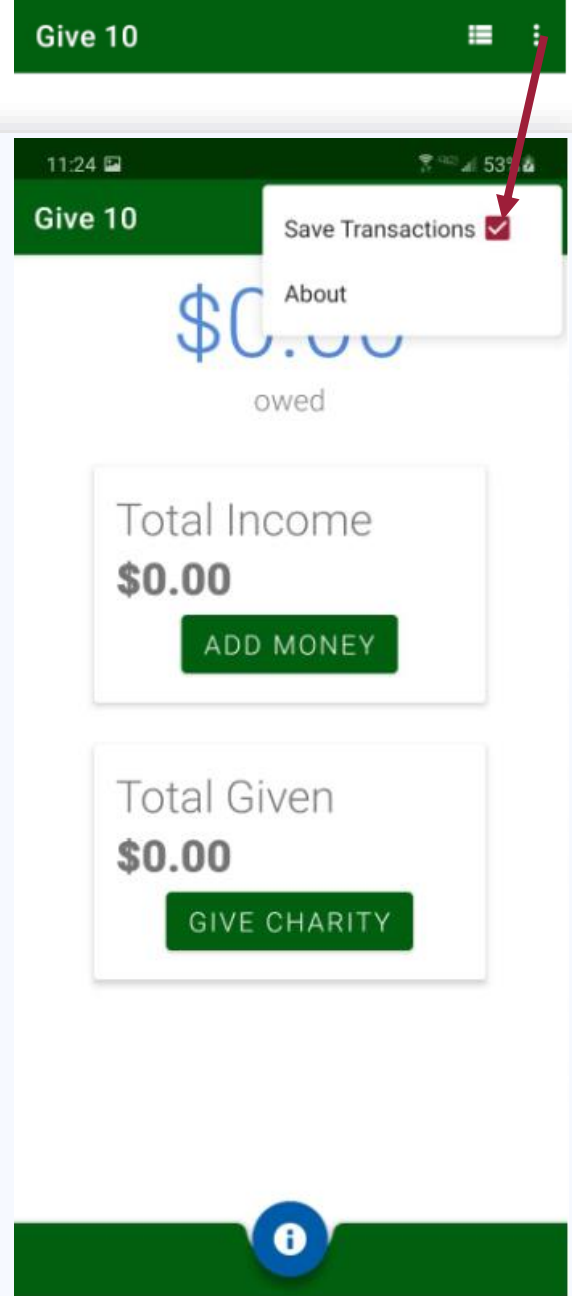
```
<menu xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    tools:context="com.example.give10.activities.MainActivity">

    <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"/>

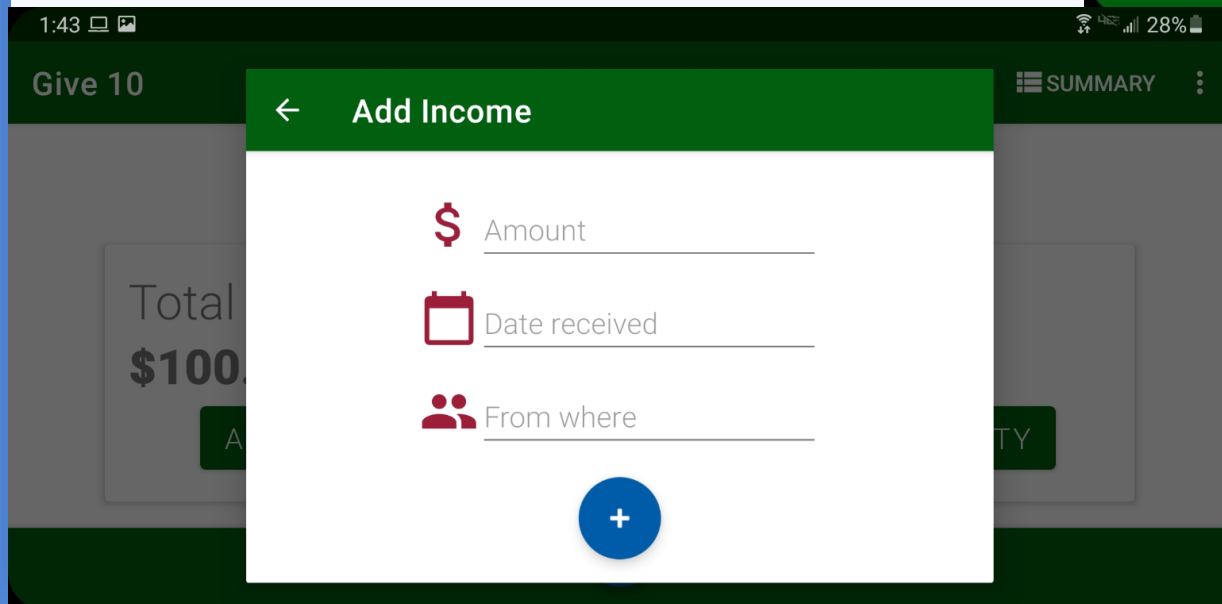
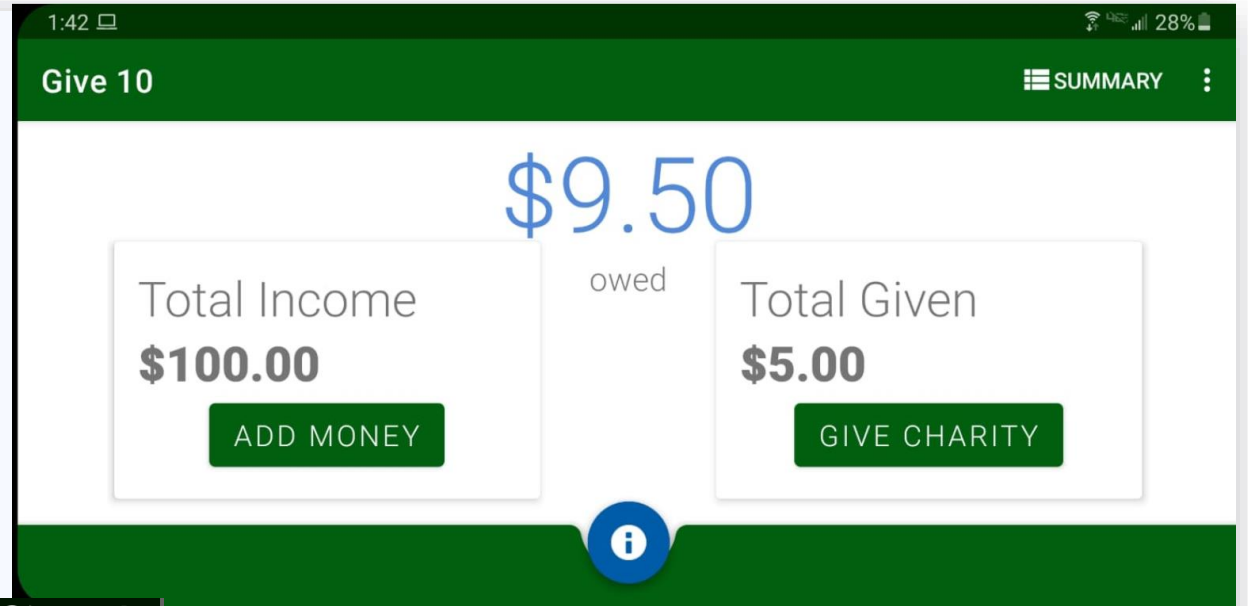
    <item
        android:id="@+id/about"
        android:orderInCategory="300"
        android:title="About"
        app:showAsAction="never"/>

</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



NIGHT MODE

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

