National University of Sciences and Technology (NUST)
School of Electrical Engineering and Computer Science

Department of Computing

SE-312: Software Construction

Class: BESE 9AB

Lab 06: Styling in React

Date:

Time: Monday, 09:00am-12:00pm & 02:00-05:00pm

Instructor: Dr. Seema Jehan

Lab Engineer: Mr. Aftab Farooq

Muhammad Asim Khaskheli

BESE-9A
250319

Deployed at : http://lab6-asim.surge.sh/

GitHub Repo: https://github.com/Asim-2000/Software-Construction-Labs/tree/main/lab6

Lab 06: Styling in React

Introduction

React is a JavaScript library created by Facebook. React is a tool for building UI components. React creates a VIRTUAL DOM in memory.

Objectives

The objective of this lab is using the styling concepts of react to design a simple react web page. The students will design a simple website. Students will explore different styling components.

Tools/Software Requirement

NPM, Node.js, React, HTML, CSS

Previous Knowledge:

HTML, CSS, Javascript (ES6).

Helping Material:
W3Schools: https://www.w3schools.com/react/default.asp
Material UI: https://material-ui.com/

Note:
- You can use "https://material-ui.com/" to design different components for your webpage such as appbar for navigation bar and cards in what we do section.
- Be creative in your design and explore different styling components.
- To use the above website, follow these steps:
i. Install Material-UI's source files via npm. We take care of injecting the CSS needed.
   $ npm install @material-ui/core
ii. Load the default Roboto font.
   **<link rel="stylesheet"
href="https://fonts.googleapis.com/css?family=Roboto:300,400,500,700&display=swap" />**
iii. Here is an example how to use these components. Material-UI components work without any additional setup, and don't pollute the global scope.
   **import React from 'react';
   import { Button } from '@material-ui/core';**
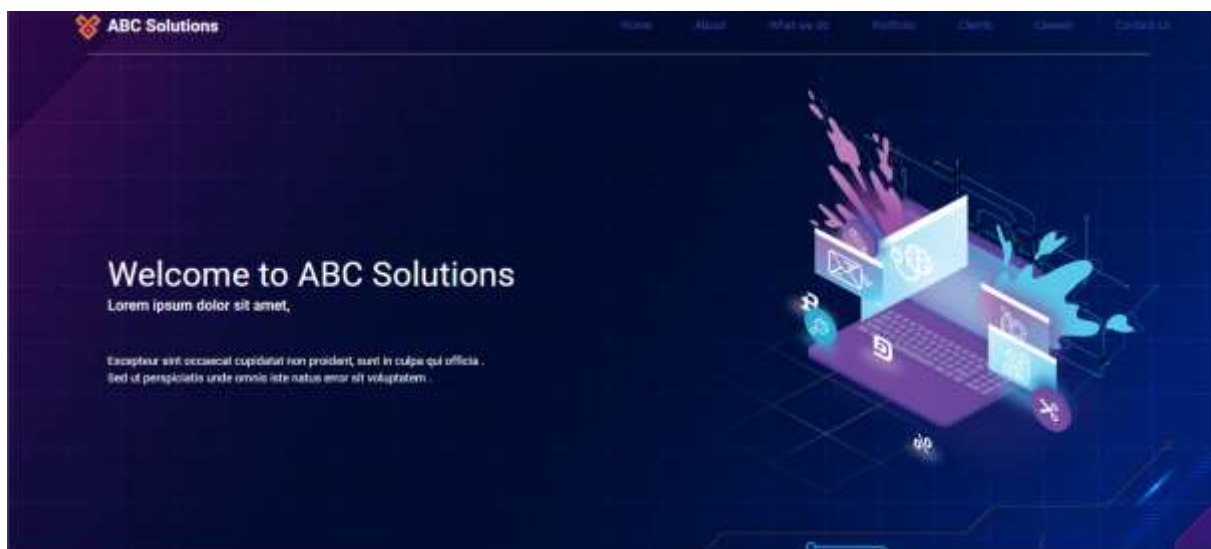
   **function App() {
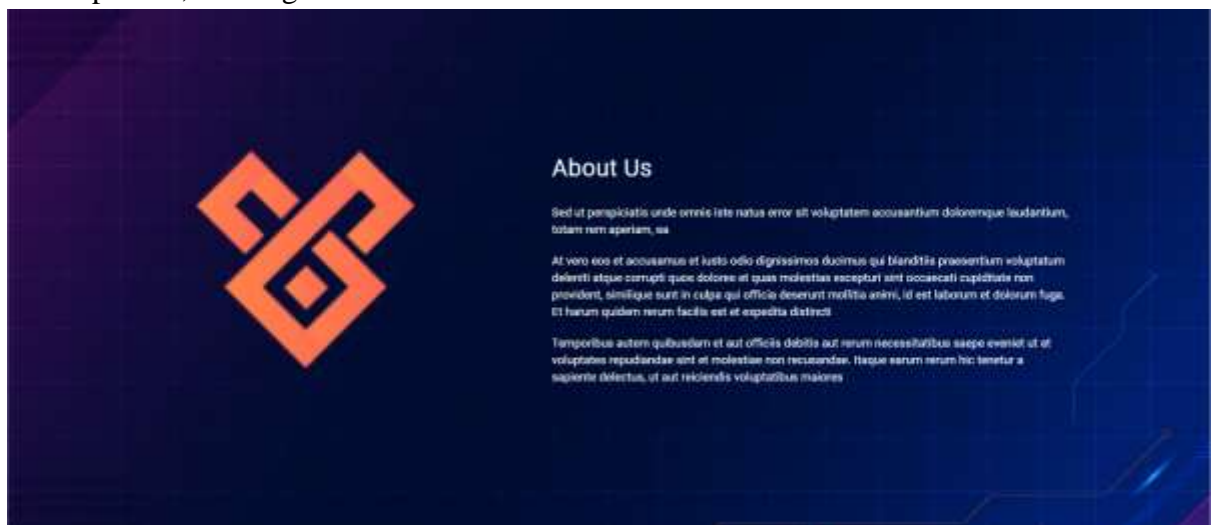   return <Button color="primary">Hello World</Button>;}**

Lab Tasks:

Task 1: Design a simple web page using React. You can use components from "https://material-ui.com/"

1. Make a simple web page using react.
2. Set the background of your choice
3. Add a name and logo of your choice on the top left corner
4. Make a top navigation bar on the upper right corner and add 3-4 components (No need to make pages for components, just make a navigation bar)
5. Make an introduction section and add a heading, some text and a picture on the page as shown in the ss

Task 2:

1. Continue the task 1 and add an about us section below the introduction section.
2. Add a picture, heading and some text in this section as shown in the ss.

Task 3:

1. Continue the above tasks and make another section named "what we do".
2. Add a heading some text in this section.
3. Insert at least 3 different cards using "https://material-ui.com/".
4. Add some text on the cards.
5. Join all three sections.

Solution

Task 1 Code:

Deployed at : **http://lab6-asim.surge.sh/**
GitHub Repo: **https://github.com/Asim-2000/Software-Construction-Labs/tree/main/lab6**

Navbar.js

```
import React from 'react';
import { makeStyles } from '@material-ui/core/styles';
import Toolbar from '@material-ui/core/Toolbar';
import Typography from '@material-ui/core/Typography';
import Button from '@material-ui/core/Button';
import AppBar from '@material-ui/core/AppBar';

const useStyles = makeStyles((theme) => ({
  root: {
```
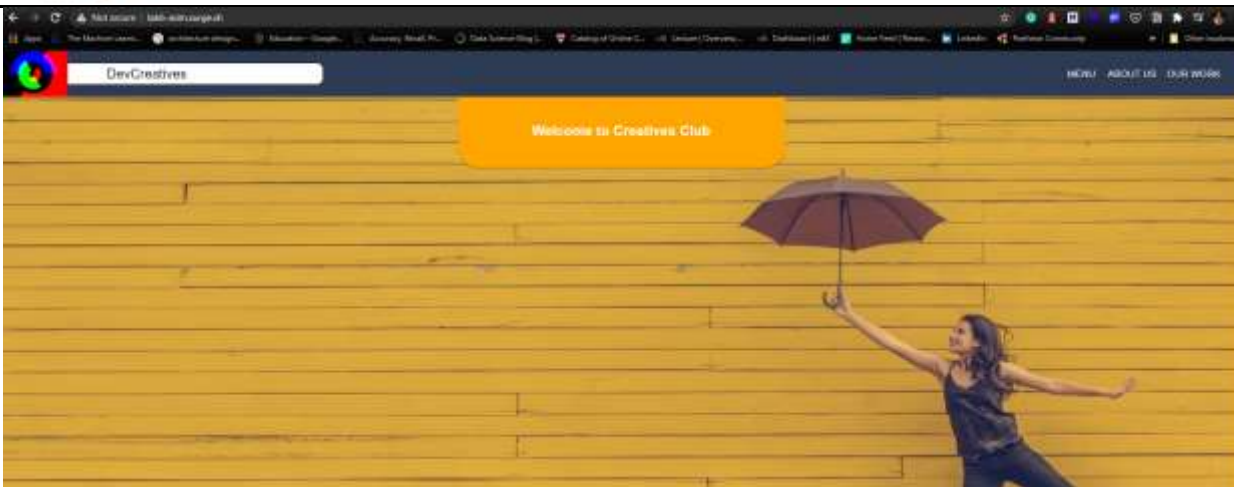
```
    flexGrow: 1,
  },
  menuButton: {
    marginRight: theme.spacing(2),
  },
  title: {
    flexGrow: 3
  },
}));

export default function ButtonAppBar() {
  const classes = useStyles();
  return (
    <div className={classes.root}>
      <AppBar style={{ background: "#2E3B55" }} position="static">
        <Toolbar style={{ 'paddingLeft': '0px' }}>
          <img style={{ 'width': '105px', 'backgroundColor': 'white' }
} src="images/logo2.jpg" alt={'Hello'}></img>

          <Typography style={{'color': 'black', 'maxWidth': '330px','m
arginRight':'60%', 'border': '1px solid black', 'borderLeftStyle': 'no
ne', 'borderRadius': '0px 10px 10px 0px', 'backgroundColor':'white', '
paddingLeft':'60px'}}
          variant="h6" className={classes.title}>
            DevCreatives
          </Typography>

          <Button color="inherit">Menu</Button>
          <Button href='#aboutus' color="inherit">About Us</Button>
          <Button href='#whatwedo' color="inherit">Our Work</Button>
        </Toolbar>
      </AppBar>
    </div>
  );
}
```

Task Output Screenshot:

Task 2 Code:

NavBar.js

```js
import React from 'react';
import { makeStyles } from '@material-ui/core/styles';
import Paper from '@material-ui/core/Paper';
import Grid from '@material-ui/core/Grid';

const useStyles = makeStyles((theme) => ({
  root: {
    flexGrow: 1,
    margin:'auto 100px'
  },
  paper: {
    textAlign: 'center',
    backgroundColor: 'orange',
    marginTop: '1%',
    color: 'white'
  },
```

```jsx
}));

export default function CenteredGrid() {
  const classes = useStyles();

  return (
    <div className={classes.root}>
      <Grid container spacing={1}>
        <Grid item xs={3}>
          <img
            style={{ width: "200px", paddingTop: "5px" }}
            src="images/logo2.jpg"
            alt={"Hello"}
          ></img>
        </Grid>
        <Grid item xs={9}>
          <Paper style={{ paddingTop: "1px" }} className={classes.paper}>
            Lorem Ipsum is simply dummy text of the printing and typesetting
            industry. Lorem Ipsum has been the industry's standard dummy text
            ever since the 1500s, when an unknown printer took a galley of type
            and scrambled it to make a type specimen book. It has survived not
            only five centuries, but also the leap into electronic typesetting,
            remaining essentially unchanged. It was popularised in the 1960s
            with the release of Letraset sheets containing Lorem Ipsum passages,
            and more recently with desktop publishing software like Aldus
            PageMaker including versions of Lorem Ipsum.
          </Paper>
        </Grid>
      </Grid>
    </div>
  );
}
```

Task Output Screenshot:

Task 3 Code:

Card.js

```
import React from 'react';
import Card from '@material-ui/core/Card';
import { makeStyles } from '@material-ui/core/styles';
import CardContent from '@material-ui/core/CardContent';
import Typography from '@material-ui/core/Typography';

const useStyles = makeStyles({

  title: {
    textAlign: 'right',
```

```
      fontSize: 14,
  },

  pos: {
    textAlign: 'right',
    marginBottom: 12,
  },

  bullet: {
    display: 'inline-block',
    transform: 'scale(0.8)',
    margin: '0 2px',
  },

  root: {
    width: 500,
    borderTop:'none',
    borderRadius: '0px 0px 30px 30px',
    backgroundColor: 'orange',
    margin: '0px auto',
  },
});

export default function SimpleCard() {
  const classes = useStyles();
  return (
    <Card className={classes.root}>
      <CardContent>
        <Typography className={classes.title} color="textSecondary" gutterBottom>
        <h2 style={{'textAlign':'center', 'color':'white'}}>Welcome to
 Creatives Club</h2>
        </Typography>
      </CardContent>
    </Card>
  );
}
```

ItemCard.js

```jsx
import React from 'react';
import clsx from 'clsx';
import { makeStyles } from '@material-ui/core/styles';
import IconButton from '@material-ui/core/IconButton';
import Typography from '@material-ui/core/Typography';
import Card from '@material-ui/core/Card';
import Avatar from '@material-ui/core/Avatar';
import { red } from '@material-ui/core/colors';
import FavoriteIcon from '@material-ui/icons/Favorite';
import CardHeader from '@material-ui/core/CardHeader';
import ShareIcon from '@material-ui/icons/Share';
import ExpandMoreIcon from '@material-ui/icons/ExpandMore';
import MoreVertIcon from '@material-ui/icons/MoreVert';
import CardMedia from '@material-ui/core/CardMedia';
import CardContent from '@material-ui/core/CardContent';
import CardActions from '@material-ui/core/CardActions';
import Collapse from '@material-ui/core/Collapse';


const useStyles = makeStyles((theme) => ({
  root: {
    maxWidth: 345
  },
  media: {
    height: 250,
    paddingTop: '56.25%',
  },
  expand: {
    transform: 'rotate(0deg)',
    marginLeft: 'auto',
    transition: theme.transitions.create('transform', {
      duration: theme.transitions.duration.shortest,
    }),
  },
  expandOpen: {
    transform: 'rotate(180deg)',
  },
  avatar: {
    backgroundColor: red[500],
```

```jsx
  },
}));

const RecipeReviewCard = (props) => {
  // console.log(props)
  const classes = useStyles();
  const [expanded, setExpanded] = React.useState(false);

  const handleExpandClick = () => {
    setExpanded(!expanded);
  };

  return (
    <Card className={classes.root}>
      <CardHeader
        avatar={
          <Avatar aria-label="recipe" className={classes.avatar}>
            {props.attr.name[0]}
          </Avatar>
        }
        action={
          <IconButton aria-label="settings">
            <MoreVertIcon />
          </IconButton>
        }
        title={props.attr.name}
        subheader={"last updated on " + props.attr.lastUpdated}
      />
      <CardMedia
        className={classes.media}
        image={props.attr.link}
        title="MMM"
      />
      <CardContent>
        <Typography style={{ 'height':'120px' }} variant="body2" color
="textSecondary" component="p">
        {props.attr.desc}
        </Typography>
      </CardContent>
      <CardActions disableSpacing>
        <IconButton aria-label="add to favorites">
          <FavoriteIcon />
        </IconButton>
```

```jsx
          <IconButton aria-label="share">
            <ShareIcon />
          </IconButton>
          <IconButton
            className={clsx(classes.expand, {
              [classes.expandOpen]: expanded,
            })}
            onClick={handleExpandClick}
            aria-expanded={expanded}
            aria-label="show more"
          >
            <ExpandMoreIcon />
          </IconButton>
        </CardActions>
        <Collapse in={expanded} timeout="auto" unmountOnExit>
          <CardContent>
            <Typography paragraph>
              {props.attr.moreInfo}
            </Typography>
          </CardContent>
        </Collapse>
      </Card>
  );
}

export default RecipeReviewCard;
```

Whatwedo.js

```jsx
import React, { useState } from 'react';
import Grid from '@material-ui/core/Grid';
import Itemcard from '../ItemCard/ItemCard'
import { makeStyles } from '@material-ui/core/styles';

const useStyles = makeStyles((theme) => ({
  root: {
    flexGrow: 1,
  },
  paper: {
    padding: theme.spacing(2),
```

```
      textAlign: 'center',
      color: theme.palette.text.secondary,
  },
}));

export default function CenteredGrid() {
  const classes = useStyles();
  const [info, setInfo] = useState([
    {
      name: 'Pic 1',
      desc: 'Demo Description',
      link: '/images/Six.jpg',
      lastUpdated: '4th April 2021',
      moreInfo: 'Demo Info'
    },
      {
      name: 'Pic 1',
      desc: 'Demo Description',
      link: '/images/Roger.jpg',
      lastUpdated: '4th April 2021',
      moreInfo: 'Demo Info'
    },
      {
      name: 'Pic 1',
      desc: 'Demo Description',
      link: '/images/Twinchefs.jpg',
      lastUpdated: '4th April 2021',
      moreInfo: 'Demo Info'
    },
      {
      name: 'Pic 1',
      desc: 'Demo Description',
      link: '/images/Mono.jpg',
      lastUpdated: '4th April 2021',
      moreInfo: 'Demo Info'
    },
      {
      name: 'Pic 1',
      desc: 'Demo Description',
      link: '/images/Six.jpg',
      lastUpdated: '4th April 2021',
      moreInfo: 'Demo Info'
    },
```

```
    {
      name: 'Pic 1',
      desc: 'Demo Description',
      link: '/images/Lady2.jpg',
      lastUpdated: '4th April 2021',
      moreInfo: 'Demo Info'
    }
]);

  return (
    <div className={classes.root}>
      <Grid container spacing={3}>
        <Grid item xs={4}>
          <Itemcard attr={info[0]}></Itemcard>
        </Grid>
        <Grid item xs={4}>
          <Itemcard attr={info[1]}></Itemcard>
        </Grid>
        <Grid item xs={4}>
          <Itemcard attr={info[2]}></Itemcard>
        </Grid>
        <Grid item xs={4}>
          <Itemcard attr={info[3]}></Itemcard>
        </Grid>
        <Grid item xs={4}>
          <Itemcard attr={info[4]}></Itemcard>
        </Grid>
        <Grid item xs={4}>
          <Itemcard attr={info[5]}></Itemcard>
        </Grid>
      </Grid>
    </div>
  );
}
```
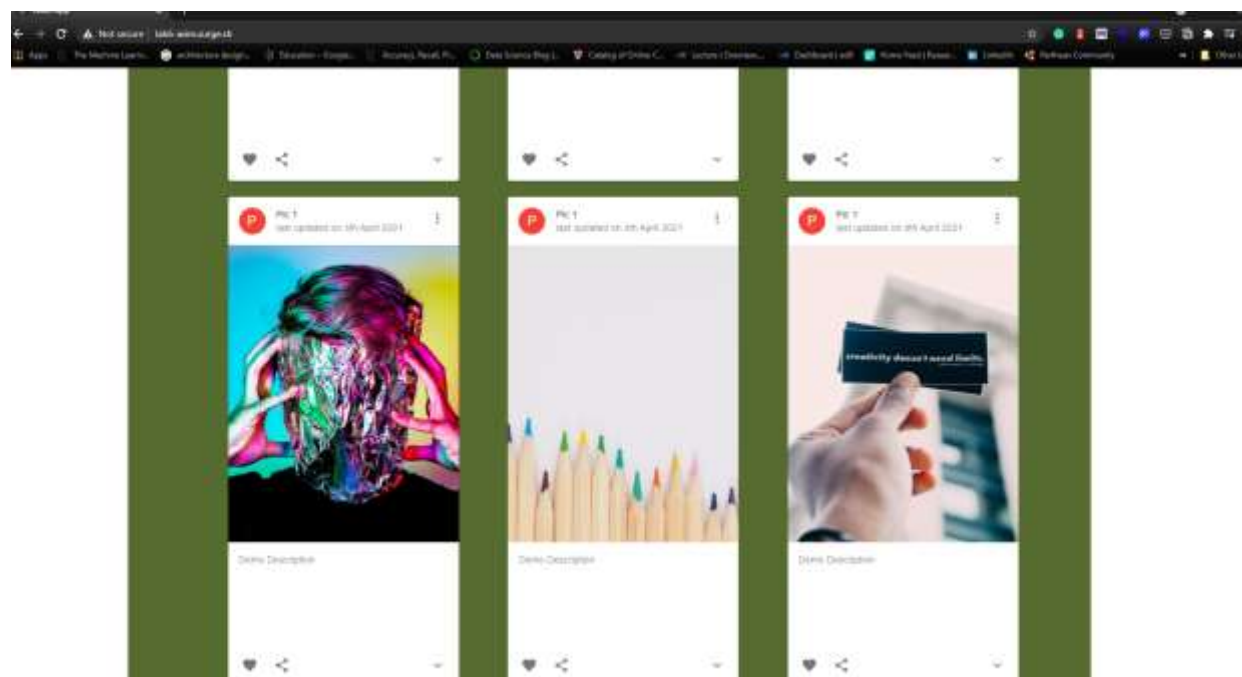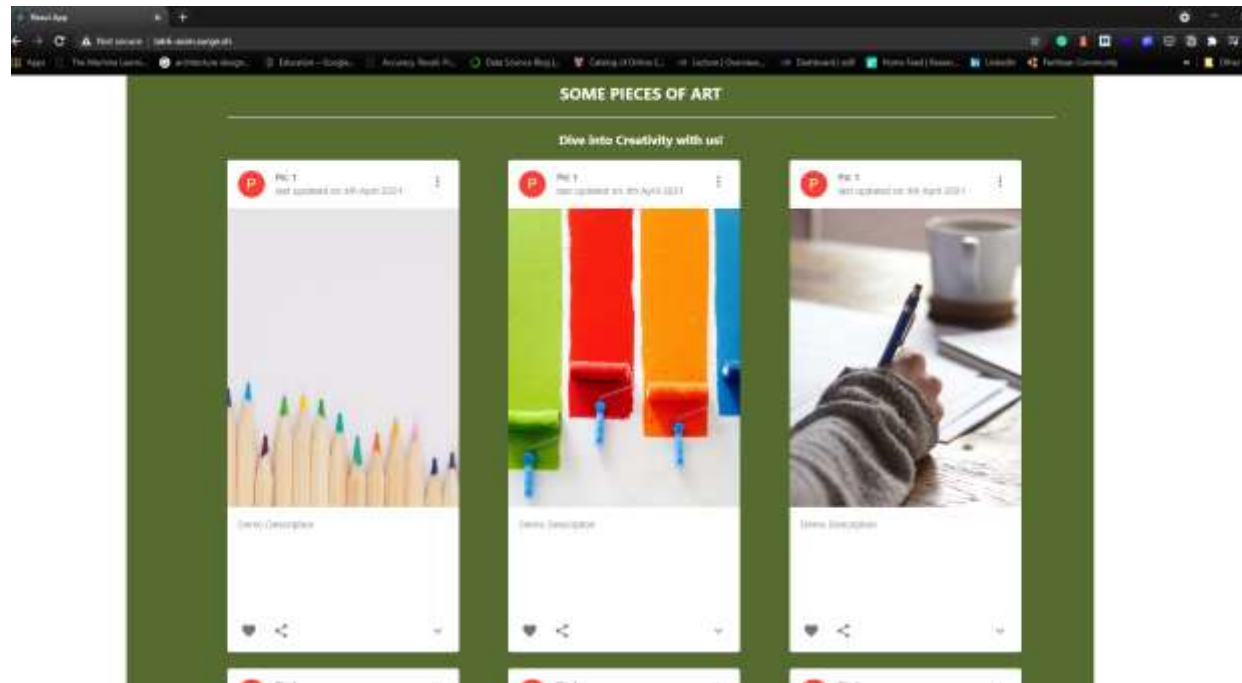
Task Output Screenshot:

Deliverables

Compile a single word document by filling in the solution part and submit this Word file on LMS. This lab grading policy is as follows: The lab is graded between 0 to 10 marks. The submitted solution can get a maximum of 5 marks. At the end of each lab or in the next lab, there will be a viva/quiz related to the tasks. The viva/quiz has a weightage of 5 marks. Insert the solution/answer in this document. You must show the implementation of the tasks in the designing tool, along with your complete Word document to get your work graded. You must also submit this Word document on the LMS. In case of any problems with submissions on LMS, submit your Lab assignments by emailing it to Mr. Aftab Farooq: aftab.farooq@seecs.edu.pk.