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World News on a Click

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ABSTRACT

A leading newspaper with their present mobile application which is not providing a good user-friendly environment for their users wherein they could not easily interact with its users and also it intends in increasing its readership. So, it decided to enable their users an agile environment where news could be read with low internet speed. The user can also view videos.

WORLD NEWS ON A CLICK provides the user a dynamic environment where the news gets updated every 45 seconds, WORLD NEWS ON A CLICK is an android application which enables users to get updated with the latest news as and when possible. The News may be local, national or international.

The main purpose of the WORLD NEWS ON A CLICK is to provide an mobile application for users of the news readers. The application provides online tools in graphic to make the usage much easier. A program interface that takes advantage of the mobile graphics to make the program easier to use. Well-designed graphical user interfaces can free the user from erroneous news provided over the internet.

Most of the existing systems are clumsy and are not user-friendly. The application is simple yet very dynamically updated in terms of news.
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1 Project Description

- **WORLD NEWS ON A CLICK** is an android application which enables users to get updated with the latest news as and when possible. The News may be local, national or international.

- The application also facilitates users to browse and watch news in videos too which in turn allows the users to track the latest information.

1.1 Competitive Information

- In the market right now there are no specific android applications which provide users NEWS by all means at fingertips.
- Our application “**WORLD NEWS ON A CLICK**” is one of the major unique providers of the NEWS content to users based on various genres and also based on multiple News Portal Servers like CNN, SUN Times, Tribune, US Today and FOX News.

1.2 Relationship to Other Applications/Projects

- There is no direct relationship to other applications/projects with our project but our Idea was nourished with the Need of News to be made available to the users whenever and wherever possible.
- There are multiple websites available online to view News from multiple sources but not exactly a mobile app can do that.
- We took initiative in developing such an app where News is reachable to each and every person.

1.3 Assumptions and Dependencies

- One of the major assumptions for our project was to give the user a unique experience in viewing the day to day News.
- We also assumed that the News has to be both interactive and meaningful, so we made sure that we also provide video content to user.
- Our project is mainly targeted for Android users as most of the population on the planet use smartphones and that to Android OS.
- We are depending on the various News Portal Servers to retrieve most of our information and display that to the user respectively.

1.4 Future Enhancements

- As one of the future enhancements, we would like to make IOS application for **WORLD NEWS ON A CLICK** available.
- We are also interested in adding more news portals to the existing portals.
- In future updates we would facilitate the user to save and share the content from our application to various other products in the market.

1.5 Definitions and Acronyms

- SRS can be representing as Software Requirement Specifications.
- FR can be representing as Functional Requirement.
- NFR can be representing as Nonfunctional requirement.
- XML as extensible markup language
2 Project Technical Description

For users to understand the project clearly, we need to develop a well versed Project Technical Description. We formulated the same in the following sections

2.1 Application Architecture

We have extensively worked on best model for architecture and we have come up with the following

2.2 Application Information flows

The information in the application flows in the following steps mentioned

- **Step 1**: On the off chance that the client taps the application first time he ought to be coordinated to the landing page.
- **Step 2**: After User clicking the button (WORLD NEWS ON A CLICK) on the landing page. He ought to be diverted to the Second page where there are different news entrances.
- **Step 3**: After clicking the required in the second page, the client ought to be diverted to the third page application where there are various kinds of news like Sports, Videos, and so on.,
- **Step 4**: After client selecting the individual sort of news, the android application recovers the information from the news gateway servers and presents the outcome to the client in the last page.
- **Step 5**: After client selecting the videos the application gets the information from the entryway servers and showcases the videos page.

2.3 Interactions with other Applications

Our android application mainly interacts with news portal web servers like

- FOX NEWS
- USA TODAY
- CNN
- SUNTIMES
- TRIBUNE

The Query from the user which is initiated by the android application hits the news portal server and retrieves the respective content to the user. We need to make sure that the servers are always up and running so that the user will have his news at all the times. In case of fatal server failure we need to update the user that server is not responding and we will resolve the issue as soon as possible.
2.4 Capabilities

As our Android application is using the news portal servers to get the contents. The application is expected
- Retrieve the data
- Stored the data in SQLite database
- Display the data.

2.5 Risk Assessment and Management

For a successful project, risk assessment and management are primary. We have developed risk assessment and risk management plans carefully to assure righteous functionality of the application. Following are the major steps involved in risk assessment and management:
- Defining the schedule, resources and cost of the project.
- Ability to make a blueprint.
- Master schedule and detailed schedules to be generated.
- Project budget should be discussed.
- Identified and required resources are made available,
- Risk management roles and responsibilities are defined.
- Handling the risk management.

Each group member has taken active role in the above plan to meet the requirements and served as key partners for risk evaluation and management.

3 Project Requirements

3.1 Identification of Requirements

Our team made sure to develop a unique product which provides users best features possible. We had requirement gathering sessions with various users to come up with the following requirements

- `<GSU-GS_SP2016-1 User-Capability-000001>`
  The project must allow users to use the application without any prior registration.
  Implementation: Mandatory

- `<GSU-GS_SP2016-1 User-Capability-000002>`
  Users can view News through videos without prior registration.
  Implementation: Mandatory

- `<GSU-GS_SP2016-1 User-Capability-000003>`
  Users can save News through videos without prior registration.
  Implementation: Not required in the current version release

- `<GSU-GS_SP2016-1 User-Capability-000004>`
  Users can share News without prior registration.
  Implementation: Not required in the current version release

- `<GSU-GS_SP2016-1 User-Capability-000005>`
  Users can save News and share through the app.
  Implementation: Optional
• <GSU-GS_SP2016-1 User-Capability-000006>
  Users can view News from multiple News Portals at the same time.
  Implementation: Mandatory

• <GSU-GS_SP2016-1 User-Capability-000007>
  Users can view multiple genres of News from multiple News Providers.
  Implementation: Mandatory

3.2 Operations, Administration, Maintenance and Provisioning (OAM&P)

• Our application’s major responsibility is to provide the users with latest news and updates as soon as possible. As the process of giving information is only retrieval of data and displaying it to the user, it doesn’t need much of administration and maintenance.
• We made sure that the content provided to the user is accurate to the maximum possible extent by using various techniques.

3.3 Security and Fraud Prevention

One of the major concerns of any application is the security and the fraud protection that it offers. We made sure that our app is Secure by the following guidelines:
  • Secure the Code: Building a Secure Application
  • Secure the Device: Detecting Compromised and Vulnerable Run-Time Environment.
  • Secure the Data: Preventing Data Theft and Leakage.
  • Secure the Transaction: Controlling the Execution of High-Risk Mobile Transactions
  • Securing Enterprise Mobile Applications Against Evolving Threats

3.4 Release and Transition Plan

• The project will be deployed to the customer by the first week of may 2016 which is QA Passed and UAT Passed, Production ready build.
• Our team is striving hard to improve the quality of user experience by providing users with more and more features in future like saving and sharing the news content via our app.
• We are trying to release an update in the next quarter of 2016 with the above mentioned updates.

4 Project Design Description

The design in our project can be depicted with the help of UML diagrams.

UML Diagrams

UML is the language used in the Information technology industries as a blue print. It is used in describing the system architecture using various diagrams like

• Deployment Diagram:

  The deployment diagram determines an arrangement of develops that can be utilized to characterize the execution engineering of frameworks that speak to the task of programming antiques to hubs. Hubs are associated through correspondence ways to make system frameworks of self-assertive multifaceted nature. Hubs are normally characterized in a settled way, and speak to either equipment gadgets or programming execution situations. Ancient rarities speak to solid components in the physical world that are the aftereffect of an improvement procedure.
• **Class Diagram:**

A Class diagram models the static structure of a system. It shows relationships between classes, objects, attributes, and operations.

• **Use case Diagram:**

A use case is a philosophy used in framework examination to distinguish, elucidate, and sort out framework necessities. The use case is comprised of an arrangement of conceivable successions of associations amongst frameworks and users in a specific situation and identified with a specific objective.

• **Component Diagram:**

A component diagram portrays the association and wiring of the physical components in a framework. Component diagrams are regularly attracted to model execution points of interest and twofold watch that each part of the framework's required capacities is secured by arranged improvement.

**Class Diagram:**

![Class Diagram](image)
Use case Diagram:

Component Diagram:
5 Internal/external Interface Impacts and Specification

- For any android application user interface is critical. In our application we focused majorly to provide user a seamless and pleasant user experience.
- Our application has four major activities. So, we have four layouts with respect to each activity.
- We use Java to switch between the multiple activities and also the main logic of the project lies with the Java programming.
- XML is used to design the layout of the android app.
- We don’t have any internal or external interfaces connected to the application therefore; there are no impacts from them.

**Hardware Requirements:**
- Pentium 4 Processor
- 1 GB Ram
- 80 GB HDD
- Internet Connectivity

**Software Requirements:**
- Android Studio
- Android OS version 4.0 and above
- Display size : 3.2 inch and above
6 Design Units Impacts

The impact of design on any project is very crucial. In our project, we have four main activities and design layouts. The project has been divided into two major Functional areas/Design Units.

6.1 Functional Area A/Design Unit A

First Functional area is the user navigating from second activity (The page in the application which shows Multiple News Portals) to the third page (The page in application which shows multiple genres of news like Sports, Videos, Politics etc..) and Design Unit respectively.

6.1.1 Functional Overview

In this, we will understand how the user interacts with the application. That is how user inputs the data to the application and how it is being processed to get to the next level in the data retrieval process.

6.1.2 Impacts

There are no Major Impacts on the application functioning. Some of the minor impacts include:

- Number of Users
- Delay In Data Retrieval
- Application Compatibility Issues
- Status Of News Portal Servers

6.1.3 Requirements

FFR01
If the user clicks the application first time he should be directed to the home page.

FFR02
After User clicking the button (WORLD NEWS ON A CLICK) on the home page. He should be redirected to the Second page where there are multiple news portals.

FFR03
After clicking the required in the second page, the user should be redirected to the third page application where there are multiple genres of news like Sports, Videos, etc.,

6.2 Functional Area B/Design Unit B

Second functional area is when the user wants to retrieve the News Content from respective genre and news portal from the Android application.

6.2.1 Functional Overview

The major functional overview of the android application is displaying the user requested contact from the respective servers.
6.2.2 Impacts

Some of the minor impacts include

- Size of the content retrieved
- Length and size of videos
- News Portal servers down

6.2.3 Requirements

FFR04

After user selecting the respective genre of news, the android application retrieves the data from the news portal servers and displays the results to the user in the final page.

FFR05

After user selecting the videos the application gets the data from the portal servers and displays the videos page.

7. Software Testing

Software testing is a critical element of software quality assurance and represents the ultimate review of specification, design and code generation.

7.1 Testing Objectives

- To ensure that during operation the system will perform as per specification.
- To make sure that system meets the user requirements during operation
- To make sure that during the operation, incorrect input, processing and output will be detected
- To see that when correct inputs are fed to the system the outputs are correct
- To verify that the controls incorporated in the same system as intended
- Testing is a process of executing a program with the intent of finding an error
- A good test case is one that has a high probability of finding an as yet undiscovered error

7.2 Test Case Design

White box testing

White box testing is a testing case design method that uses the control structure of the procedure design to derive test cases. All independents path in a module are exercised at least once, all logical decisions are exercised at once, execute all loops at boundaries and within their operational bounds exercise internal data structure to ensure their validity. Here the customer is given three chances to enter a valid choice out of the given menu. After which the control exits the current menu.
**Black Box Testing**

Black Box Testing attempts to find errors in following areas or categories, incorrect or missing functions, interface error, errors in data structures, performance error and initialization and termination error. Here all the input data must match the data type to become a valid entry.

We have taken multiple test cases to check the correctness of our application. Each member in the team has done each test case. These cases are the most crucial as they helped in deciding our application’s correctness.

<table>
<thead>
<tr>
<th>Test Objective 1:</th>
<th>For News retrieval.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Description:</td>
<td>User queries for required News</td>
</tr>
<tr>
<td>Requirements Verified:</td>
<td>Yes</td>
</tr>
<tr>
<td>Test Environment:</td>
<td>Application must be deployed in android mobile phone or emulator.</td>
</tr>
<tr>
<td><strong>Test Setup/Pre-Conditions:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Actions</strong></td>
<td><strong>Expected Results</strong></td>
</tr>
<tr>
<td>The user will provide query details</td>
<td>Retrieve the respective News</td>
</tr>
<tr>
<td><strong>Pass:</strong> Yes</td>
<td><strong>Conditions pass:</strong> Yes</td>
</tr>
<tr>
<td>Problems / Issues:</td>
<td>NIL</td>
</tr>
<tr>
<td>Notes:</td>
<td>Successfully Executed</td>
</tr>
</tbody>
</table>
**Test Objective 2:** For Videos retrieval.

**Test Description:** User queries for required News Videos

**Requirements Verified:** Yes

**Test Environment:** Application must be deployed in android mobile phone or emulator.

**Test Setup/Pre-Conditions:**

<table>
<thead>
<tr>
<th>Actions</th>
<th>Expected Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>The user will provide query details</td>
<td>Retrieve the respective News Videos</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pass: Yes</th>
<th>Conditions pass: Yes</th>
<th>Fail: No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

**Problems / Issues:** NIL

**Notes:** Successfully Executed

**Test Objective 3:** For News retrieval from a particular News Portal and Genre.

**Test Description:** User queries for required News

**Requirements Verified:** Yes

**Test Environment:** Application must be deployed in android mobile phone or emulator.

**Test Setup/Pre-Conditions:**

<table>
<thead>
<tr>
<th>Actions</th>
<th>Expected Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>The user will provide query details</td>
<td>Retrieve the respective News based on user preferences.</td>
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</table>

<table>
<thead>
<tr>
<th>Pass: Yes</th>
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<th>Fail: No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

**Problems / Issues:** NIL

**Notes:** Successfully Executed
Output Screens

Emulator Screen Shot

Application Screen Shot
9 Acknowledgements

- The team is very thankful to Professor DPark for his mentorship in the development of this project.
- The team has done a marvelous job in the development of the project from the start of the Project Lifecycle to Deployment with same effort and hard work throughout the project.

10 References

- Android
- JAVA HOW TO PROGRAM by Dietel & Dietel
- For Coding
  http://stackoverflow.com/
  http://www.vogella.com/articles/AndroidListView/article.html#listsactivity_performance
- SOFTWARE ENGINEERING by Roger.S.Pressman