**Internship Report**

**By: Mariam Srour**

**Introduction:**

My internship at Vanrise Solution Company transcended the boundaries of a conventional academic chapter; it was a transformative journey into the practical realm of technology and software development. This experience became a dynamic expedition, driven by curiosity, collaboration, and the relentless pursuit of understanding. It served as the bridge between theoretical concepts and their real-world applications.

During the internship, I had the privilege of engaging in a diverse range of projects and tasks that not only exposed me to cutting-edge technologies but also provided me with hands-on experience in web development and database integration. This report encapsulates the stages of my internship, shedding light on the tools and skills I acquired, and revealing how these experiences expanded my horizons, offering invaluable insights into the ever-evolving landscape of technology and software development.

1. **Background and Objectives:**

At the inception of the internship program, a set of well-defined objectives was presented to the interns, myself included, to serve as guiding principles throughout the internship period. These objectives, which were thoroughly embraced and accomplished, encompassed the following key facets:

* I was introduced to new technologies, including AngularJs, C#, and MSSQL, while further expanding my knowledge in technologies I was already familiar with, such as JavaScript, HTML, CSS, and Bootstrap.
* The internship developed my analytic and problem-solving skills through exposure to intricate tasks and real-world issues. This practical experience demanded that I engage in critical thinking, efficient troubleshooting, and the creation of inventive solutions, resulting in a substantial improvement in these essential skills.
* The internship program helped me nurture my recently acquired skills by engaging me in challenging tasks, all within a condensed schedule. Particularly, the extra assignments, such as Drill Down, Promises, and Paging, allowed me to put these skills into practice in demanding situations, significantly enhancing my ability to learn quickly and adapt effectively in a fast-paced setting.

1. **Tools and Technologies:**

Throughout the internship program, I had the opportunity to work with a wide number of tools and technologies, including:

JavaScript/ HTML5 / CSS/ Bootstrap/ AngularJS 1.4.8/ C#/ MSSQL/ WebAPI/ UI-Bootstrap/ Software Development Lifecycle

And used: Visual Studio (VS) 2022/ SSMS (SQL Server Management Studio)

1. **Tasks:**

During my internship, I completed nearly all the assigned tasks, including the extra assignments. In the following sections, I will provide a detailed account of the specific projects, tasks, and contributions that I take pride in.

**First Phase: Implement a Full Stack Flow:**

* Developed a grid with search and add functionality using JavaScript.
* Gained familiarity with CSS3 and implemented page styles.
* Utilized Bootstrap for responsive design.
* Explored AngularJs 1.4.8 for frontend development.
* Created UI modals using UI-Bootstrap.
* Developed an Edit button feature using the same modal.
* Gained familiarity with ASP.Net and C# (using .NET Framework 4.7.2 and MVC with WebAPI).
* Worked with static members and differentiated between MVC and API controllers.
* Gained expertise in REST API.
* Stored static data at the server-side level.
* Utilized $http for data communication.
* Developed an APIController layer, including a GetAllDevices Method.
* Created GetFilteredDevices Method using HTTP get.
* Implemented the remaining API methods (AddDevice and UpdateDevice).
* Set up a database, including creating the Device Table.
* Established server-side database connections.
* Developed database operations using inline SQL queries (ADO .net).
* Gained familiarity with delegates, Func, and params in C#.
* Developed stored procedures.

**Second Phase: Develop Data Entry Pages:**

* Developed the Client page, including fields for ID, Name, Type, and BirthDate.
* Managed a two-valued enum for client types (Individual, Organization).
* Incorporated conditional BirthDate display for Individual Clients.
* Implemented Name and Type filters.
* Created the Phone Number Page with ID, Number, and Device fields.
* Added Number and Device filters.

**Third Task: Familiarity with Directives:**

* Explored directives for designing reusable HTML components.
* Developed client Type and device selectors using directives.
* Created selectors with getData functions to retrieve selected IDs.
* Utilized these directives in previously implemented pages.

**Fourth Task: Phone Number Reservation Page:**

* Developed the Phone Number Reservation Page with fields for ID, Client, phone number, BED, and EED.
* Created a Phone Number Selector Directive.
* Managed BED (Begin Effective Date) as a Date field and EED (End Effective Date) as a nullable Date.
* Implemented Client and phone number filters.
* Enabled phone number reservation actions (reserve and unreserve) for clients.
* Managed the effective date range for reservations.

**Third Phase: Develop Reports Pages:**

* Created the first report page displaying the number of clients per type.
* Implemented a type selector for filtering.
* Displayed a grid with columns for Type and No of Clients.
* Developed the Number of Reserved/Unreserved Phone Numbers per device report.
* Included device and Phone Number Status filters.
* Calculated and displayed columns for Device, Phone Numbers Status, and # of phone Numbers.

**Fourth Phase: Optimize and Present the Finalized Product:**

* Developed a Login page with username and password fields.
* Defined username and password at the database level.
* Ensured password encryption for security.
* Added validation for all inputs, including required fields and age > 18.
* Included response messages for actions (add, update, delete) with detailed error messages.
* Optimized all developed pages.
* Conducted thorough testing using real data for real-case scenarios.

**Extra Tasks:**

* Implemented additional tasks, including Drill Down, Promises, and Paging.

**Extra Phase:**

* Introduced site and zone tables into the database, enriching our data structure.
* Integrated zone and site selectors as directives in client and device add/edit models.
* Developed a dynamic site selector that populates with sites linked to the selected zone, streamlining data entry.

1. **Challenges Faced:**

* **Challenge 1:** Directives Mastery

Challenge: Understanding and implementing AngularJS directives proved to be a time-consuming and complex task.

Learning: This challenge pushed me to delve deeper into AngularJS, enhancing my web development skills.

* **Challenge 2:** Visual Studio Hiccups

Challenge: Visual Studio 2022 occasionally became unresponsive, requiring restarts even when there were no code errors.

Learning: This experience taught me to troubleshoot technical issues and adapt to a dynamic development environment.

* **Challenge 3:** Browser Caching Quirks

Challenge: The Chrome browser at times cached console log messages, making debugging confusing.

Learning: Switching user accounts in the browser helped resolve the issue, emphasizing the importance of browser caching awareness in web development.

1. **Personal and Professional Growth**

My internship experience has been instrumental in my personal and professional development, for a transformational journey of skill development and confidence building. I embraced tasks that were completely new to me, such as paging, drill down, directives, and popup models, which seemed intimidating at first but ultimately enhanced my abilities in areas I had been in before, the internship also enhanced my skills and enhanced my understanding of applied technology He designed it. All these developments have given me new confidence and skills, and have positioned me as a flexible and competent engineer ready for the challenges of the future with enthusiasm.

**Conclusion**

In conclusion, I want to express my profound gratitude for the invaluable opportunity to embark on this internship journey with Vanrise Company. This experience has played a pivotal role in my professional development, equipping me with a diverse skill set and instilling a deep sense of accomplishment. I am sincerely thankful for the consistent and prompt support and guidance I received throughout the internship, which significantly contributed to a smooth and highly productive experience. Looking ahead, I am enthusiastic about applying the knowledge and skills I've gained to future endeavors while cherishing the memories and lessons learned during this transformative period, especially with the guidance of Jaafar Berjawi and Fatima Khashab, the individuals who played a critical role in overseeing our work and providing invaluable insights and assistance.

I would also like to extend my heartfelt appreciation to Jaafar Berjawi and Fatima Khashab for their invaluable contributions. Jaafar's meticulous code reviews and attention to detail ensured that we consistently delivered high-quality work. His insistence on code correctness, even if it appeared to be functioning, emphasized the importance of precision in programming—a lesson I will carry forward in my career. Fatima's dedication to clarifying complex concepts and her proactive approach to problem-solving were invaluable. She consistently went above and beyond to provide guidance, solutions, and practical examples when we faced challenges. Both Jaafar and Fatima played pivotal roles in making this internship a less daunting and more enriching experience than I initially anticipated.