

# Intelligent Scholarship Disbursement Module for National Scholarship Portal (NSP)

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**Abstract**—As a part of Digital India Initiative, Government of India provides various services to the citizens. National Scholarship Portal is one among them, which focus on ensuring quick process of Government Scholarships to the needy students. Through this portal, students can apply only for Government Scholarships. For private scholarship one needs to apply separately to the individual organization, online or offline. So, the needy students are in a dilemma in search for these Scholarship Organizations and their deadlines. The objective of this paper is to propose an Intelligent Scholarship Disbursement Module into the current National Portal, by incorporating both Government and Private Scholarships. The proposed module automates the entire Scholarship Process using Aadhaar entered during registration. The revamped Portal aims to relieve students from their financial insecurity which they face during their studies and focus on academics.

**Keywords**—Digital India Initiative; National Scholarship Portal (NSP); Aadhaar Number; Unique Identification Authority of India (UIDAI); Permanent Account Number (PAN); Tax Deduction and Collection Account Number (TAN); One Time Password (OTP); Unique Transaction Reference Number (UTR No.).

## I. INTRODUCTION

Scholarship [1], is an award of financial assistance offered to a student for their higher education. Scholarships can be broadly classified into: (1) Merit-based; (2) Need-based; (3) Student-specific; (4) Career-specific; (5) College-specific; (6) Athletic; (7) Brand Scholarships and (8) Creative Contest Scholarships. . Scholarship bequests to students based on certain qualification, eligibility, etc... Hence, needy students individually apply to these Scholarships Organizations, offline or online. But, the procedure undergone in each of these statutory bodies are same. They are: (1) Scholarship Announcement with eligibility criteria and deadline; (2) Receiving Application with valid documents; (3) Document Verification; (4) Identifying eligible candidates; (5) Notify eligible students; and (6) Transfer of funds. The entire process involves human intervention.

While the application is in progress, there is no proper coordination between the stakeholders like Income Certificate Authority and the Institutions where these documents are validated. Along the line, Aadhaar is not mandatory for the students who is applying for the scholarship. Hence, there is need for the proper solution to the problem. As the applicant need to manage every document, get it validated by third parties and

submit a copy to each office is a difficult task for them. They need to run behind every single document required for the procedure. Hence, the needy students have to be alert throughout their studies in search for financial assistance offered by the different statutory bodies.

The struggles and hardships that students have to face in gathering the documents for the verification of Government and Private Scholarships motivated us in proposing an intelligent module into the current National Scholarship Portal which is a part of Digital India Initiative.

## II. LITERATURE SURVEY

To understand the Scholarship Process in India, a thorough survey was carried out. The survey started off with an inquiry in our parent institute which was further extended to the following websites listed in the literature survey.

### A. National Scholarship Portal [2]

The National Scholarship Portal (NSP) is a unique and simplified platform created for students to help them to avail benefits of educational scholarships in an efficient and transparent manner. The main objective of NSP is to provide Automation, Streamlining & Effective Management of processes related to Application receipt, Processing, Sanction and Disbursal of Centrally Sponsored Scholarship schemes to Students. Fig. 1, depicts the 3 Easy steps involved in Scholarship Application Process under NSP.

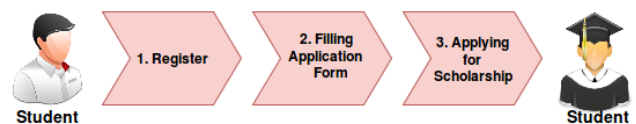


Fig. 1: 3 Easy Steps for Scholarship Process under NSP

The Mission Mode Project (MMP) of NSP under the National e-Governance Plan (NeGP), aims at providing common electronic portal for implementing various Scholarships schemes launched by Union Government, State Government and Union Territories across the country. Thus, this initiative aims at providing a Simplified, Mission-oriented, Accountable,

Responsive & Transparent 'SMART' System for faster & effective disposal of Scholarships applications and delivery of funds directly into beneficiaries account without any leakages.

Even though, NSP does provide one-stop solution for Scholarship Application Process, they lack in offering a centralized platform by coordinating between the various Third Party Authority. Now, with Digital India Initiative [3], [4] most of the government office work is migrated from paperwork into digital. So, we are proposing the intelligent module to centralize the existing NSP by making Aadhaar mandatory to simplify the Scholarship Application Process.

### B. Other Scholarships in India

To ensure quality higher education to all, University Grants Commission of India has started, e-Scholarship Fellowship Award Registration and Tracking System (e-SARTS) [5]. Also, the Ministry of Human Resources Development (MHRD), announces various Common Wealth Scholarships through its Scholarship Announcements page [6]. On a similar ground there are various State Governments [7]–[9] and Private Organizations [10]–[19] which announce scholarships to students for higher education. There even exists various other Scholarship Portals [20], [21] which acts as mere informative websites. To avail any of these Scholarships, as mentioned earlier, student's needs to apply separately to these organizations.

### III. PROPOSED INTELLIGENT MODULE FOR NSP

The proposed module works hand in hand with the current National Scholarship Portal. Here, the Private Scholarship Organizations, registers with their TAN number. Once registered, they can explicitly decide the Scholarship eligibility criteria. Even interested student's registers with their valid Aadhaar Number. Once registered, their personal details are retrieved from UIDAI, to calculate their parent's income. Then, as per the internal processing the eligible candidates are identified for a specific Scholarship and their names are forwarded to the concerned Scholarship organizations. Once the organization confirms the list, the process for fund transfer is activated. On completion of fund transfer, the Unique Transaction Reference (UTR) numbers are forwarded to the Income Tax department for generating 80G certificate for tax benefits. The students as well as their concerned educational institutions are notified with the respective UTR numbers. The proposed module for NSP is depicted in Fig 2.

The proposed module in NSP follow certain steps towards the intelligent disbursement of scholarship. First, all the Scholarship Organizations including Government and Private, register to the NSP with TAN number. NSP formally review and forward TAN number for validation to the Income Tax Department [22]. Once, its validated the appropriate response is acknowledge to the organization. If it's valid, One Time Password (OTP) is send to

the registered mobile number and email. The scholarship organization then, logs into the Portal and start filling out the respective scholarship details, guidelines, eligibility, criteria, etc. All processes are sync with the database. This process is depicted as steps 1 – 11, in Fig. 3

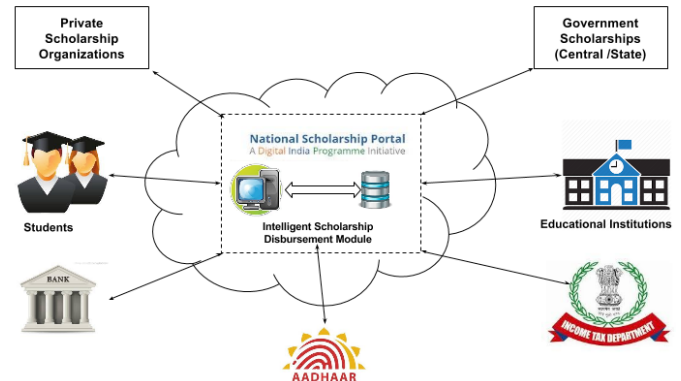


Fig. 2: Proposed Intelligent Module for NSP

Students from various educational institutions can register to the NSP with their Aadhaar number. At the back end, the NSP calls the Aadhaar API [23] with the requested Aadhaar number to validate the Aadhaar is unique and get the candidate's e-KYC [24] information. And, if it's valid then OTP is generated and forwarded to student's registered mobile number. Then the student logs into NSP with OTP, to fill the current educational details. Once, it is filled, NSP validates student information with his/her institution. Once validated, the education institution forwards the fee structure and income certificate / PAN of guardians to NSP. NSP requests the student's guardian income status based on the PAN number with the Income Tax Department. This process is depicted as steps 12 – 28, in Fig. 3

Based on the response, NSP filters and prepares the list of eligible students for scholarship. This list is forwarded to the respective Scholarship Organization along with bank details of applicants. The final review process is done and scholarship is sanctioned. The respective Scholarship Organizations then activates the Fund Transfer through their respective banks. Banks directly transfer the amount to registered bank account of students. These fund transfer details are then forwarded to NSP. The database at NSP is updated with the respective scholarship status for the student as well as scholarship organization. NSP even intimates the students and educational institutions with UTR numbers. NSP also informs scholarship fund transfer to Income Tax Department for the tax benefit under section 80G with TAN number. Income Tax Department calculates tax benefit and generate 80G certificate and notifies the respective Scholarship Organization. This process is depicted as steps 29 – 42 in Fig.3. Thus NSP winds up the Intelligent Disbursement of Scholarship for a Specific Scholarship Organization.

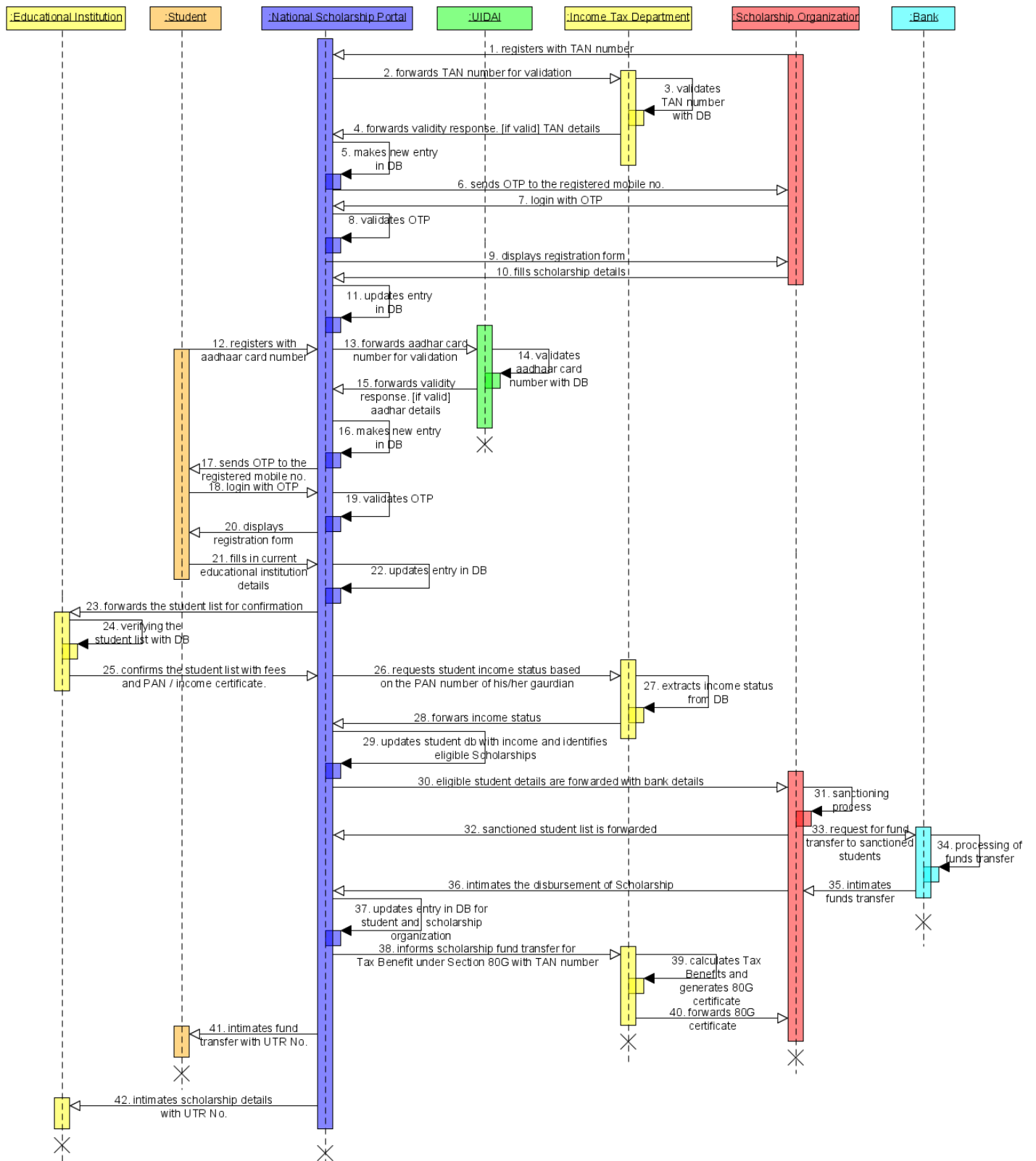


Fig. 3: Working of the Intelligent Scholarship Disbursement System

#### A. Advantages of the Proposed Module

Like every intelligent systems, the proposed intelligent system also offers the following benefits. They are:

1. Quick processing
2. Easy monitoring by the stakeholders
3. Eco-Friendly.
4. Students can focus on their studies.
5. Centralized disbursement of funds to eligible candidates.
6. Avoids duplication of Applications.
7. Avoids unnecessary document uploading.

#### B. Implementation details of the Proposed Module

For the successful implementation of any system, one needs to plan the deployment phases in detail. The five phases involved in the Implementation are:

1. Web and Android interface for the registration of stakeholders,
2. TAN verification of Private Organizations with Income Tax Department.
3. Aadhaar verification of Students with UIDAI.
4. Database updation on Cloud.
5. Notification to Stakeholders regarding Fund transfer

#### C. Implementation Challenges

The following key challenges needs to be addressed while implementation. They are:

- Involvement of Private Scholarship Organizations;
- Data Security in Cloud;
- Aadhaar verification of registered students
- TAN verification of registered Scholarship organizations.

#### D. Solutions for Addressing the Challenges

To ensure the successful implementation of the proposed system, one needs to address the above mentioned challenges. The following are the proposed solutions towards addressing the challenges:

- Conduct Awareness drive among the main stakeholders regarding the entire working of the system.
- Implement the best Cloud security algorithm for Data Security.
- Verify & Access Aadhaar via Aadhaar API.
- Verify & Access TAN via TAN API.

### IV. CONCLUSION AND FUTURE SCOPE

By integrating the proposed module into the current National Scholarship Portal, existing loopholes in the Scholarship Application Process can be eliminated to a larger extent. Towards making the system fool proof, there is a need to integrate the system with Income Certificate Issuing Authority. Also, the implementation and maintainance of centralized student database helps in automating Document

Verification process. This ultimately seeds the plants for the complete automation of NSP.

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