AI Tool Evaluation Report – Design Phase

Introduction

In the design phase of the SENG383 Software Project course, I was responsible for creating visual designs and technical system diagrams for two parallel projects: BeePlan and KidTask. I utilized two AI-assisted design tools, Canva and Figma, to complete the required outputs and evaluated them based on three quality dimensions:

- Output Quality
- Usability
- Output Trustworthiness

Canva – BeePlan GUI Design

Canva was used to design the GUI of the BeePlan course scheduling system. The goal was to visually simulate a user-friendly academic scheduling tool for Çankaya University.

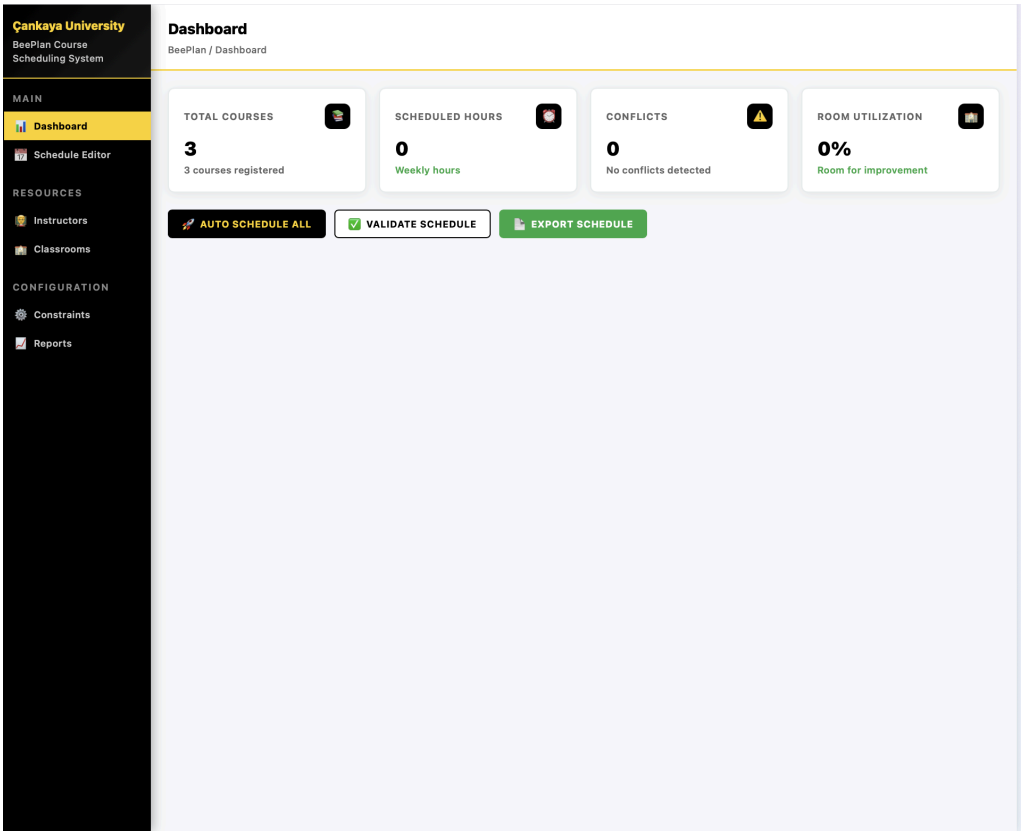
The Canva-based design includes:

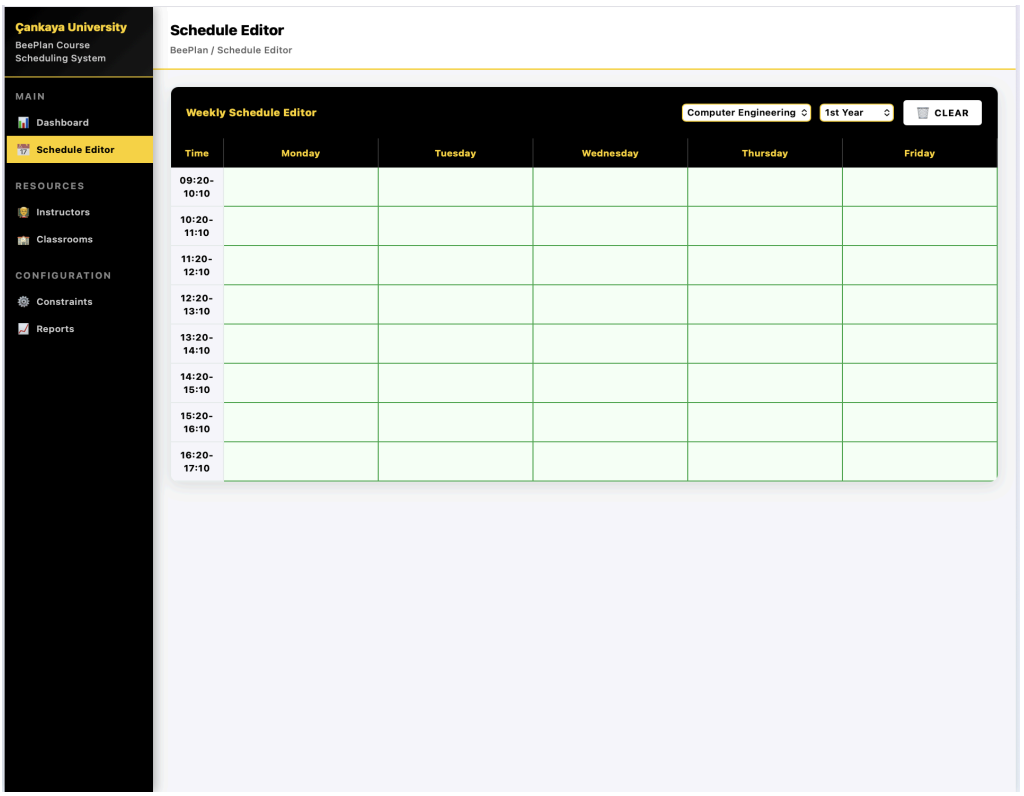
- **Dashboard**: Total courses, scheduled hours, conflicts, utilization
- **Schedule Editor**: Weekly time slots for different departments/years
- **Instructor Availability**: Grid-based availability charts
- **Classroom View**: Lab/theory rooms with statuses (Available, Occupied)
- **Constraints Panel**: Rule toggles for course and conflict management
- **Reports Panel**: Weekly efficiency, room/lab utilization, instructor load

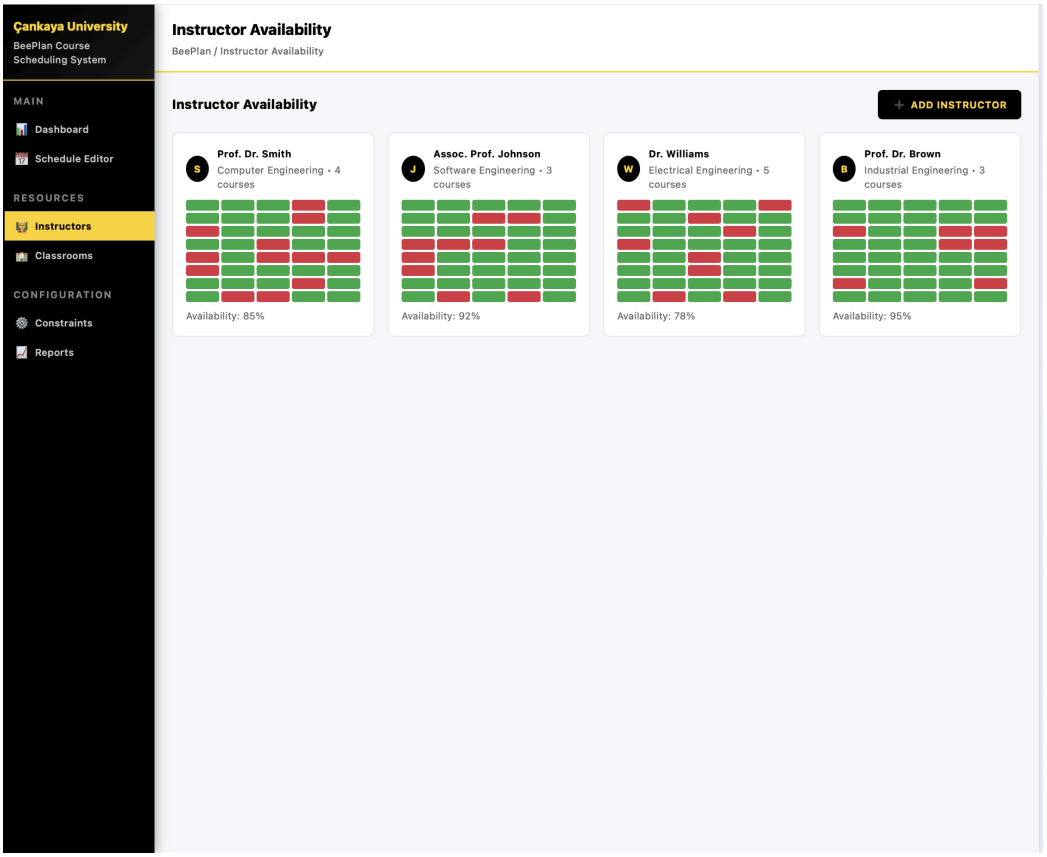
Output Quality: High. Canva allowed precise visual hierarchy, clean layout, and university-themed color palette (black & yellow).

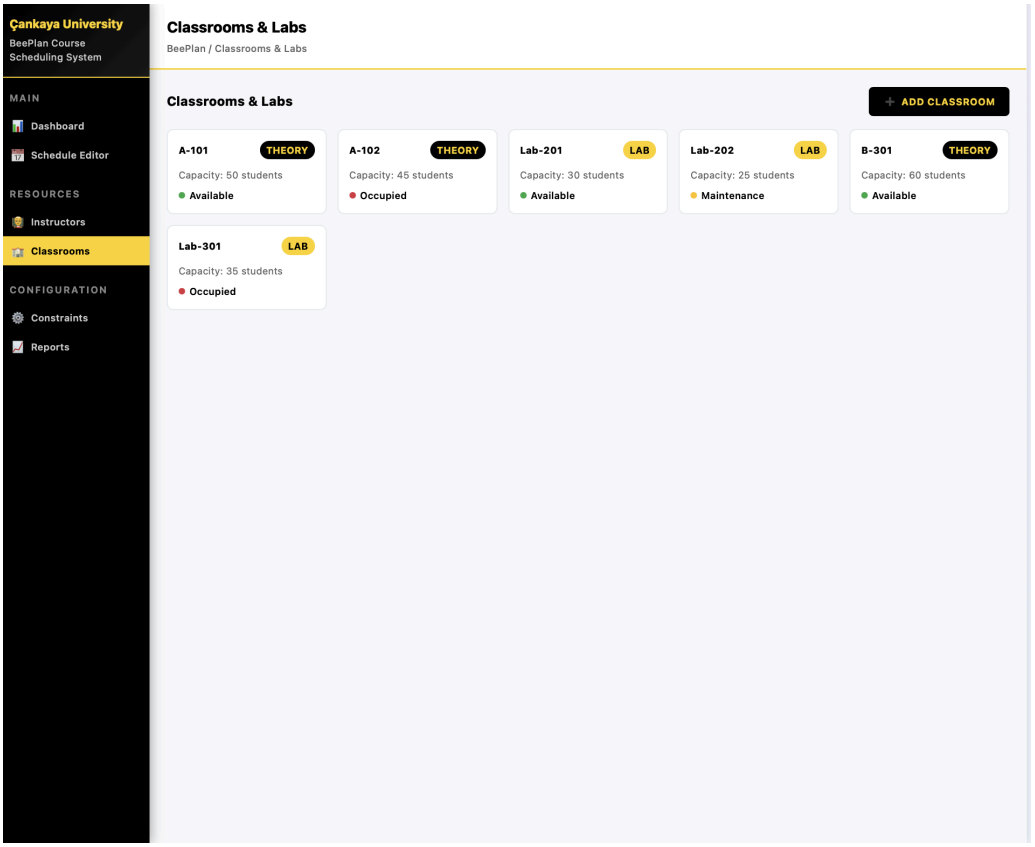
Usability: Excellent. Very intuitive for non-designers. Drag-and-drop elements sped up creation.

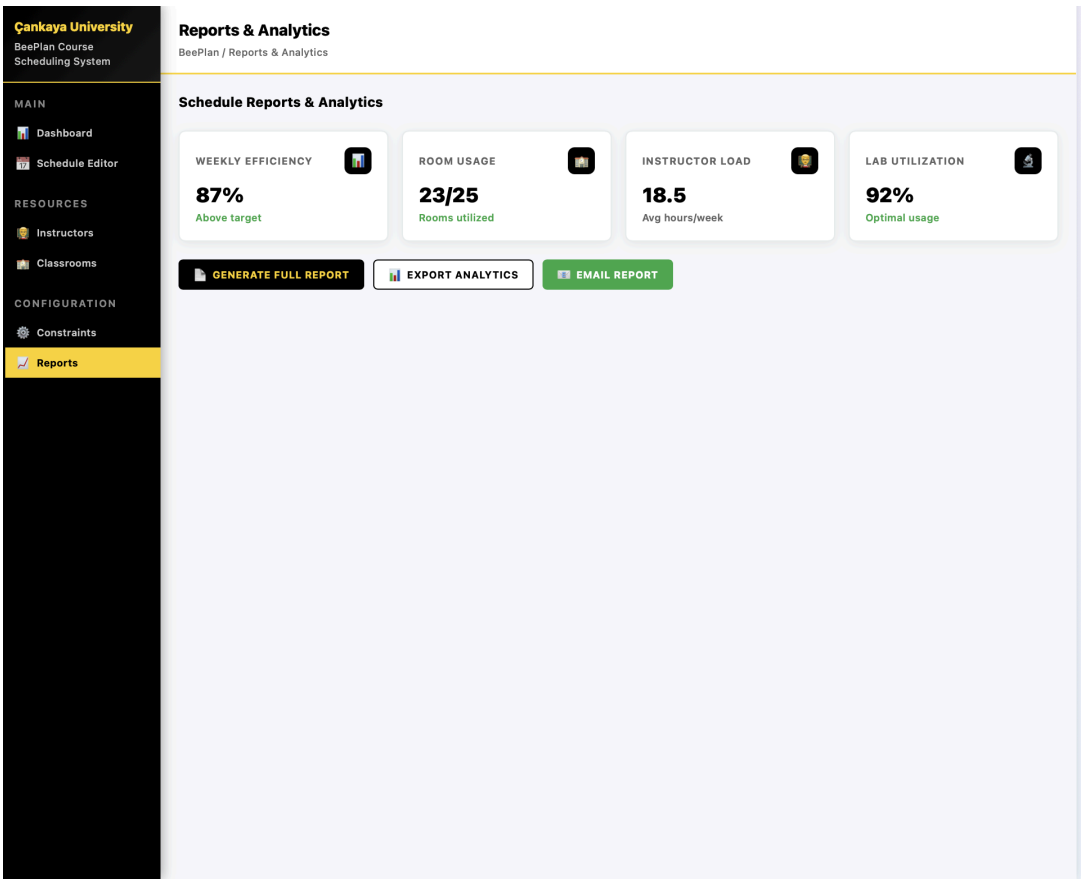
Output Trustworthiness: High for visual design. However, no direct code or behavior linkage is possible (static).

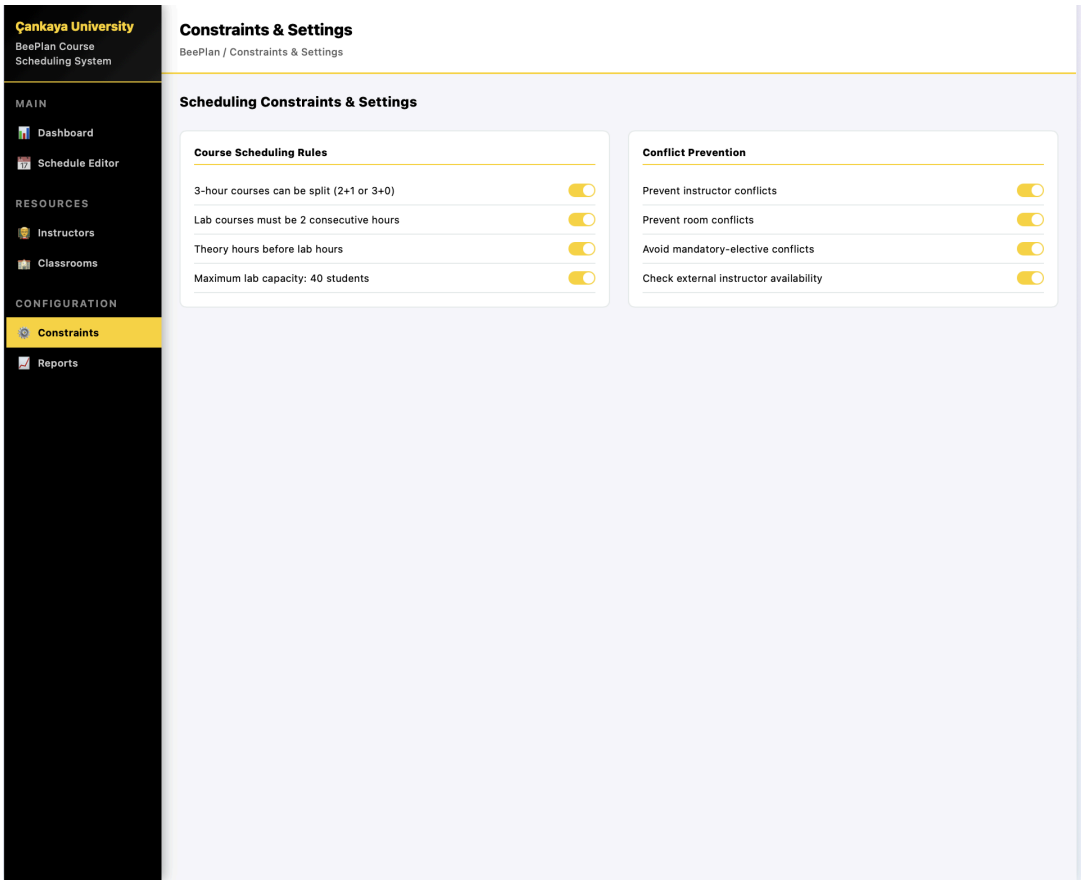

Çankaya University
BeePlan Course Scheduling System
MAIN
Dashboard
Schedule Editor
RESOURCES
Instructors
Classrooms
CONFIGURATION
Constraints
Reports
Dashboard
BeePlan / Dashboard
TOTAL COURSES
3
3 courses registered
SCHEDULED HOURS
0
Weekly hours
CONFLICTS
0
No conflicts detected
ROOM UTILIZATION
0%
Room for improvement
AUTO SCHEDULE ALL
VALIDATE SCHEDULE
EXPORT SCHEDULE


Çankaya University
BeePlan Course Scheduling System
MAIN
Dashboard
Schedule Editor
RESOURCES
Instructors
Classrooms
CONFIGURATION
Constraints
Reports
Schedule Editor
BeePlan / Schedule Editor
Weekly Schedule Editor
Computer Engineering
1st Year
CLEAR
Time
Monday
Tuesday
Wednesday
Thursday
Friday
09:20-10:10
10:20-11:10
11:20-12:10
12:20-13:10
13:20-14:10
14:20-15:10
15:20-16:10
16:20-17:10


Çankaya University
BeePlan Course Scheduling System
MAIN
Dashboard
Schedule Editor
RESOURCES
Instructors
Classrooms
CONFIGURATION
Constraints
Reports
Instructor Availability
BeePlan / Instructor Availability
Instructor Availability
ADD INSTRUCTOR
S
Prof. Dr. Smith
Computer Engineering · 4 courses
Availability: 85%
J
Assoc. Prof. Johnson
Software Engineering · 3 courses
Availability: 92%
W
Dr. Williams
Electrical Engineering · 5 courses
Availability: 78%
B
Prof. Dr. Brown
Industrial Engineering · 3 courses
Availability: 95%


Çankaya University
BeePlan Course Scheduling System
MAIN
Dashboard
Schedule Editor
RESOURCES
Instructors
Classrooms
CONFIGURATION
Constraints
Reports
Classrooms & Labs
BeePlan / Classrooms & Labs
Classrooms & Labs
ADD CLASSROOM
A-101
THEORY
Capacity: 50 students
Available
A-102
THEORY
Capacity: 45 students
Occupied
Lab-201
LAB
Capacity: 30 students
Available
Lab-202
LAB
Capacity: 25 students
Maintenance
B-301
THEORY
Capacity: 60 students
Available
Lab-301
LAB
Capacity: 35 students
Occupied


Çankaya University
BeePlan Course Scheduling System
MAIN
Dashboard
Schedule Editor
RESOURCES
Instructors
Classrooms
CONFIGURATION
Constraints
Reports
Reports & Analytics
BeePlan / Reports & Analytics
Schedule Reports & Analytics
WEEKLY EFFICIENCY
87%
Above target
ROOM USAGE
23/25
Rooms utilized
INSTRUCTOR LOAD
18.5
Avg hours/week
LAB UTILIZATION
92%
Optimal usage
GENERATE FULL REPORT
EXPORT ANALYTICS
EMAIL REPORT


Çankaya University
BeePlan Course Scheduling System
MAIN
Dashboard
Schedule Editor
RESOURCES
Instructors
Classrooms
CONFIGURATION
Constraints
Reports
Constraints & Settings
BeePlan / Constraints & Settings
Scheduling Constraints & Settings
Course Scheduling Rules
3-hour courses can be split (2+1 or 3+0)
Lab courses must be 2 consecutive hours
Theory hours before lab hours
Maximum lab capacity: 40 students
Conflict Prevention
Prevent instructor conflicts
Prevent room conflicts
Avoid mandatory-elective conflicts
Check external instructor availability

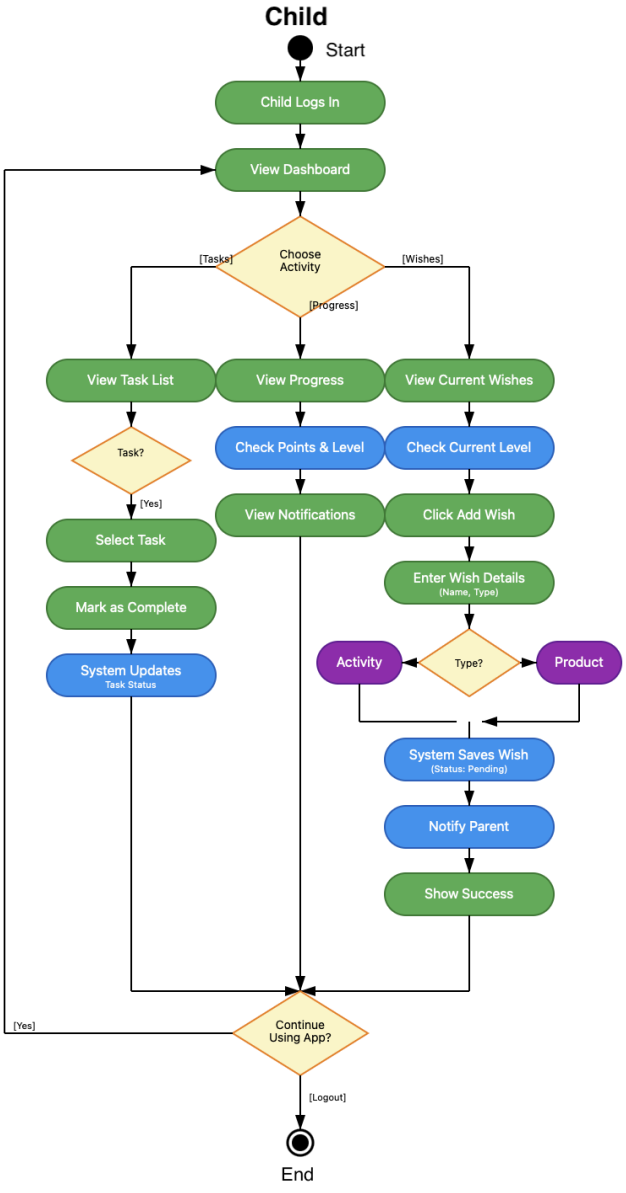
Figma – KidTask System Diagrams

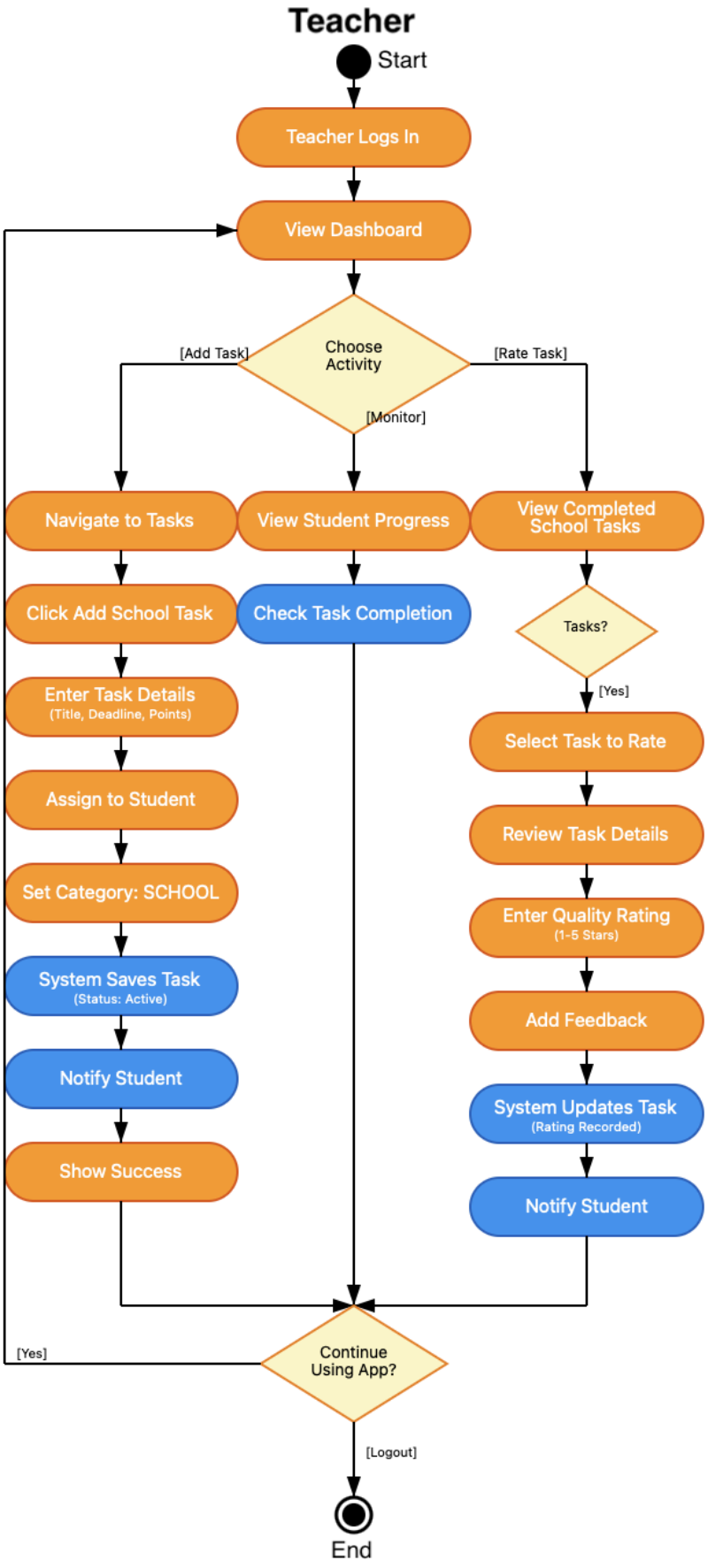
Figma was used to create both the Activity Diagrams and the Class Diagram for the KidTask system.

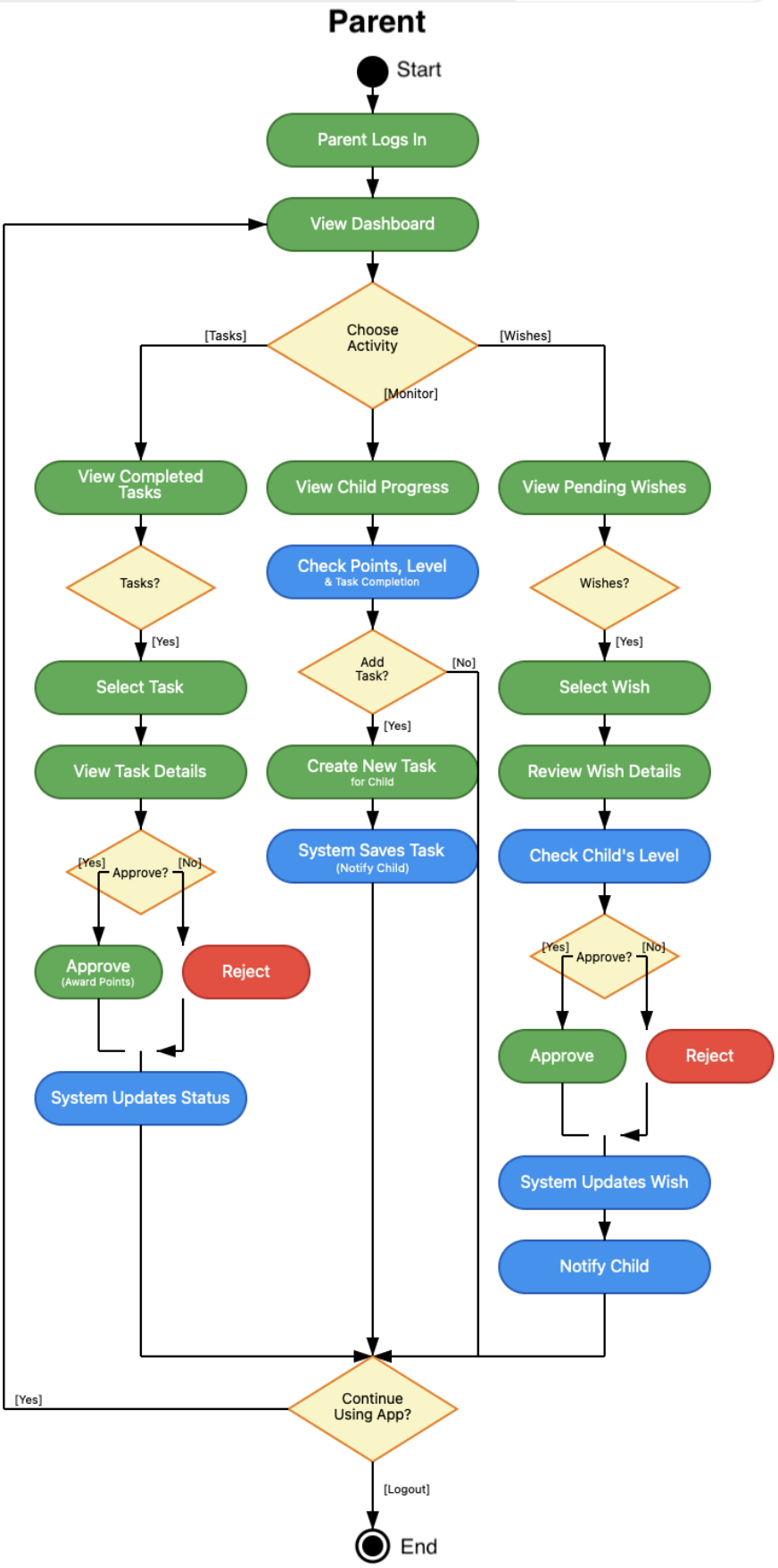
Activity Diagrams Created For:

- Child
- Parent
- Teacher

Each flow accurately reflects the different user paths: logging in, managing tasks, adding wishes, approving actions, viewing progress, etc.




Teacher
Start
Teacher Logs In
View Dashboard
Choose Activity
[Add Task]
[Rate Task]
[Monitor]
Navigate to Tasks
View Student Progress
View Completed School Tasks
Click Add School Task
Check Task Completion
Tasks?
[Yes]
Enter Task Details
(Title, Deadline, Points)
Assign to Student
Set Category: SCHOOL
System Saves Task
(Status: Active)
Notify Student
Show Success
Select Task to Rate
Review Task Details
Enter Quality Rating
(1-5 Stars)
Add Feedback
System Updates Task
(Rating Recorded)
Notify Student
Continue Using App?
[Yes]
[Logout]
End


Parent
Start
Parent Logs In
View Dashboard
Choose Activity
[Tasks]
[Monitor]
[Wishes]
View Completed Tasks
View Child Progress
View Pending Wishes
Tasks?
Check Points, Level
& Task Completion
Wishes?
[Yes]
[Yes]
[Yes]
Add Task?
[No]
Select Task
Select Wish
[Yes]
View Task Details
Create New Task
for Child
Review Wish Details
System Saves Task
(Notify Child)
Check Child's Level
[Yes]
Approve?
[No]
[Yes]
Approve?
[No]
Approve
(Award Points)
Reject
Approve
Reject
System Updates Status
System Updates Wish
Notify Child
[Yes]
Continue Using App?
[Logout]
End

Class Diagram:

The class diagram initially had significant issues, such as:

- Missing functions in key classes like Child
- The entire Teacher class was missing
- Inheritance (abstract User → Child/Parent/Teacher) not shown
- Enum classes were excluded or incorrectly modeled

After I manually reviewed the system and corrected the structure, I instructed the tool again with clearer context and made some manual adjustments. The final version now correctly displays:

- Abstract class: User
- Concrete classes: Child, Parent, Teacher
- Core entities: Task, Wish, DataManager
- Panels: LoginPanel, TaskPanel, DashboardPanel, WishPanel
- Enums: UserRole, WishStatus, TaskStatus, WishType

Output Quality: Initially poor due to AI omission, but final version is detailed and complete

Usability: Good. Figma provides flexible editing and collaborative features

Output Trustworthiness: Low without user oversight. Manual review and editing were required to ensure correctness

Class Diagram - KidTask Application