

FINAL PROJECT REPORT

BeePlan & KidTask

AI-Supported Software Development Project

1. Proje Künyesi ve Eriřim (Repository Access)

Proje Bilgileri

- **Proje Adı:**
 - BeePlan – Weekly Course Scheduling System
 - KidTask – Gamified Task & Wish Management System
- **Geliřtiriciler:**
 - **Student A:** Kaan Turkey– BeePlan – Weekly Course Scheduling System
 - **Student B:** Berkant Körođlu – KidTask – Gamified Task & Wish Management System
- **Kullanılan AI Araçları:**
 - Gemini
 - Claude
 - ChatGPT
 - DeepSeek

GitHub Repository

- **Repository Linki:**
🔗 <https://github.com/kaan200364/seng-383>

Repository Yapısı (Kontrol Listesi)

/src

└─ beeplan.py

└─ kidtask.py

/docs

└─ Final_Report.pdf

└─ Class_Diagrams.pdf

└─ Activity_Diagrams.pdf

/video

└─ Final_Presentation.mp4

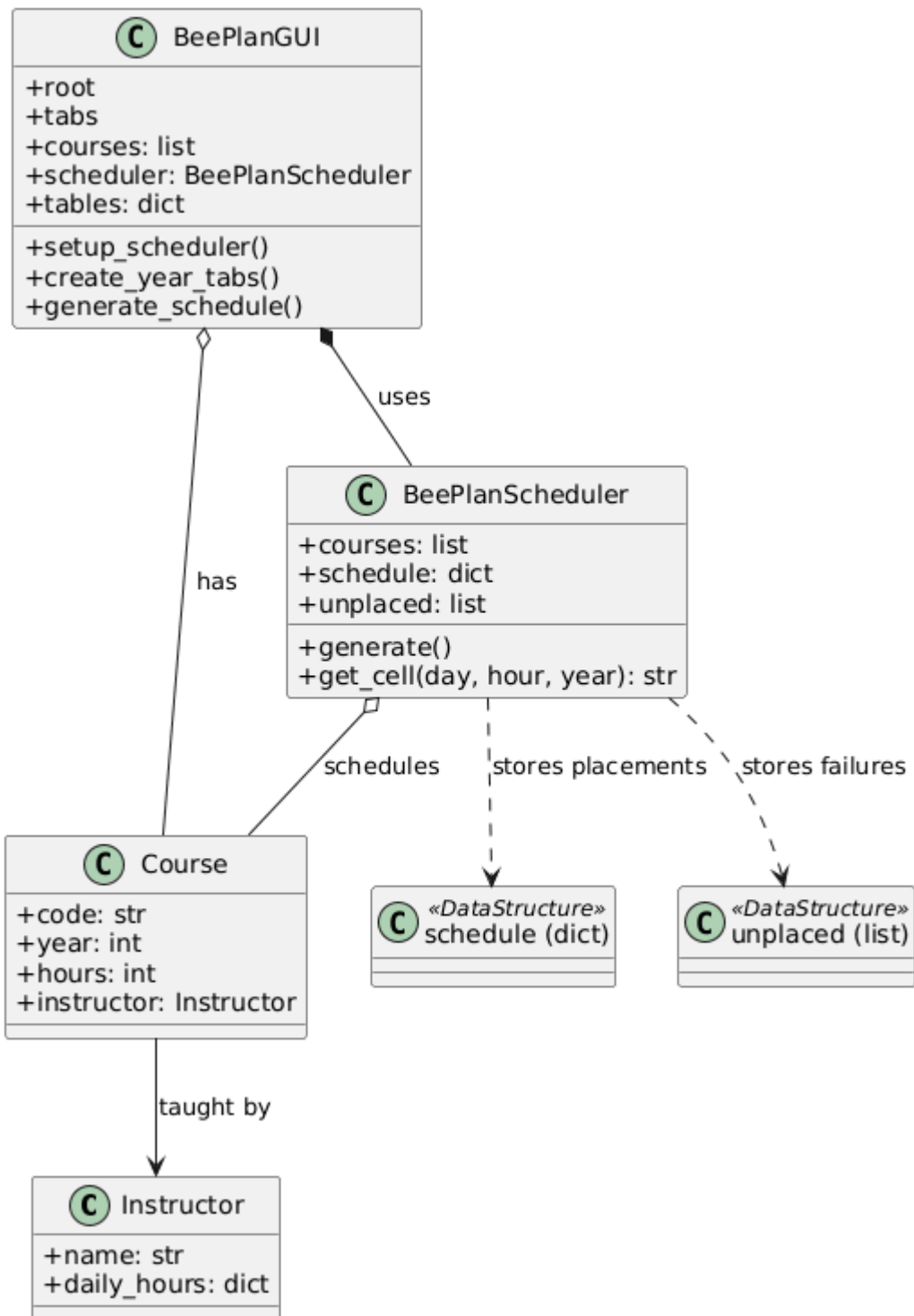
README.md

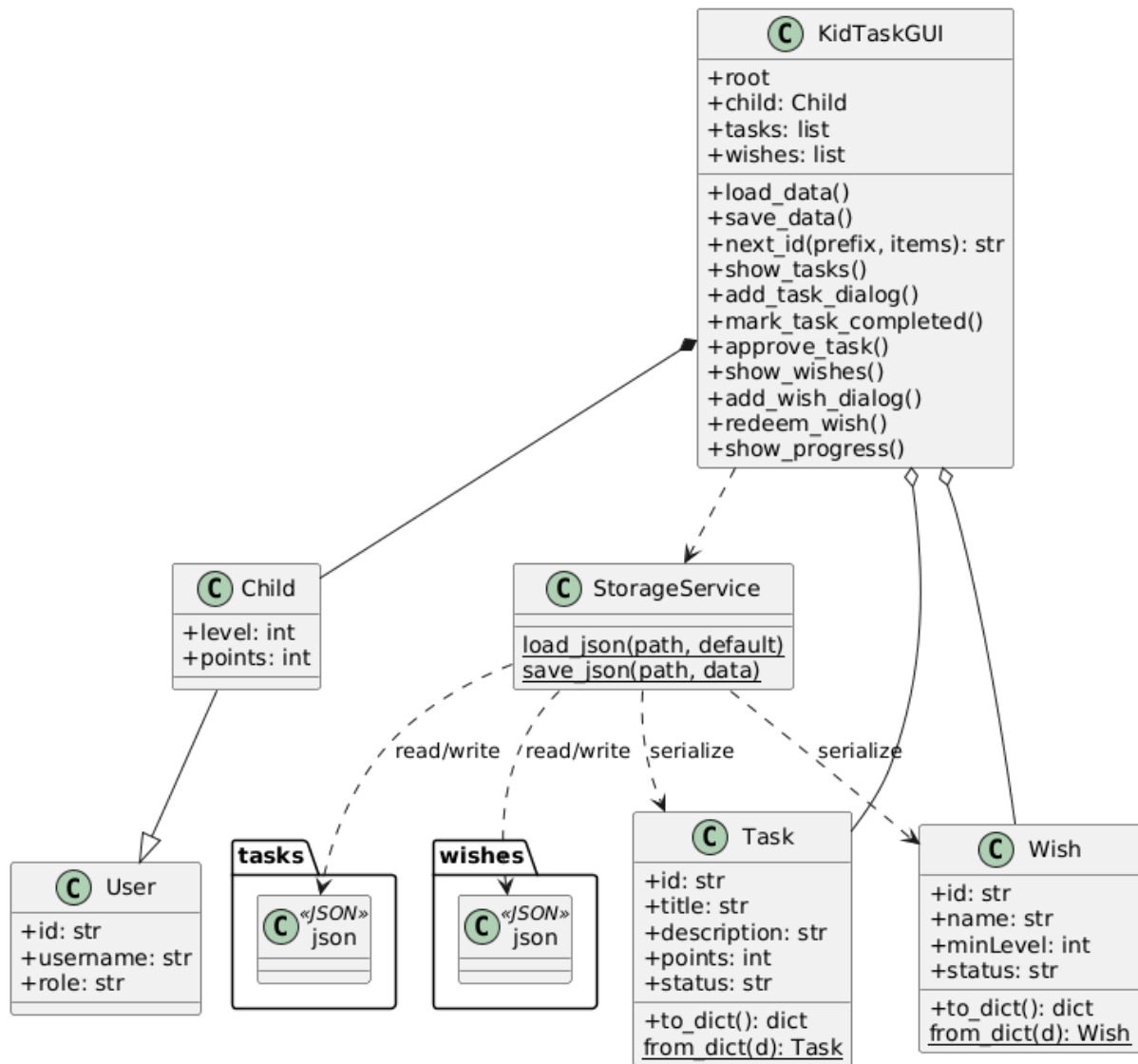
README.md dosyası:

- Proje kurulumu
- Çalıştırma talimatları
- Gerekli kütüphaneler bilgilerini içermektedir.

2. Tasarım Diyagramları: Son Versiyonlar (Final Design Artifacts)

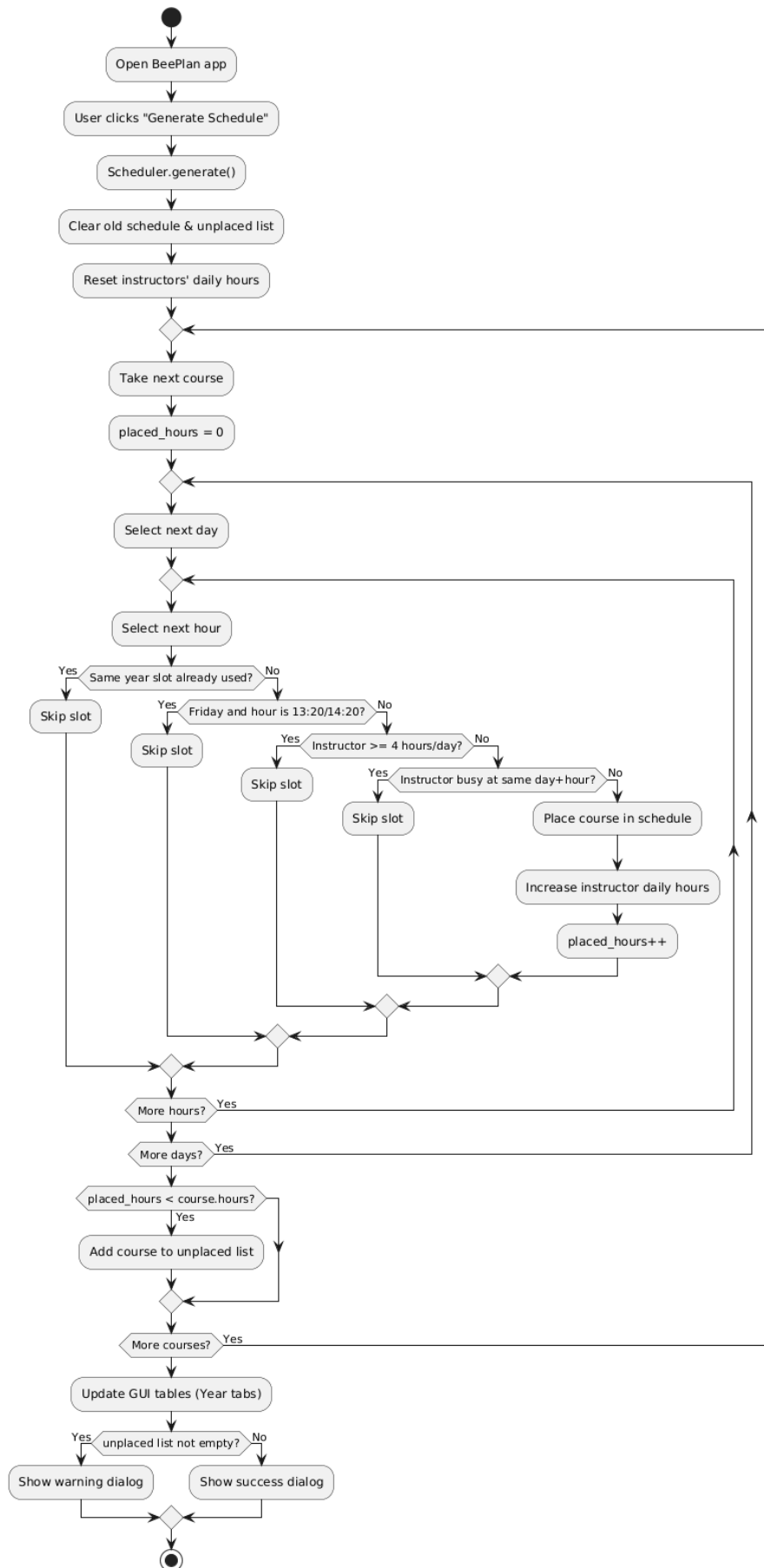
2.1 Class Diagram (Sınıf Diyagramı)



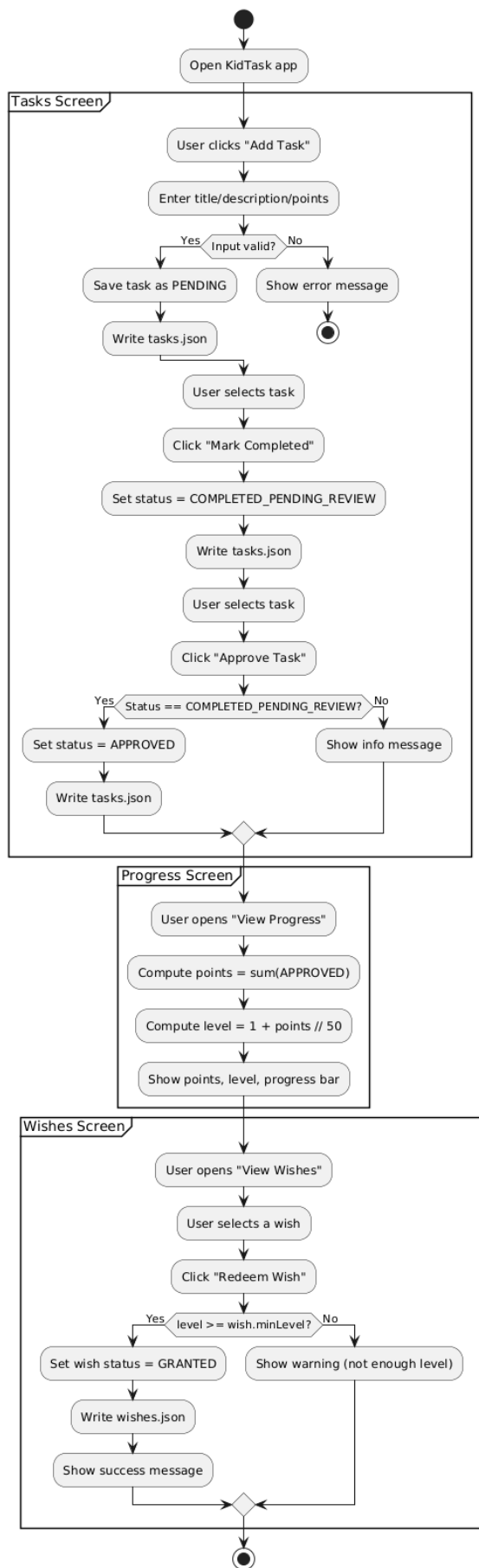


2.2 Activity Diagram (Aktivite Diyagramı)

BeePlan - User Scenario (Generate Schedule)



KidTask - User Scenario (Task & Wish Flow)

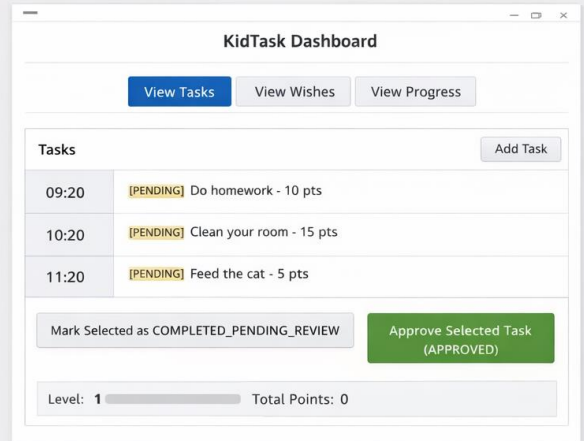


2.3 GUI Screenshots



The initial design of the KidTask Course Scheduling System features a header with a tiger logo and the title "KidTask Course Scheduling System". Below the header are three buttons: "View Tasks", "View Wishes", and "View Progress". A navigation bar shows "Year 1", "Year 2", "Year 3", and "Year 4". The main section is titled "Tasks" and contains a list of tasks: "[PENDING] Do homework - 10 pts", "[PENDING] Clean your room - 15 pts", and "[PENDING] Feed the cat - 5 pts". There are buttons for "Mark Completed" and "Approve Task". At the bottom, a progress bar shows "Level: 1" and "Total Points: 0 / 50".

INITIAL DESIGN



The final product of the KidTask Course Scheduling System features a header with the title "KidTask Dashboard". Below the header are three buttons: "View Tasks", "View Wishes", and "View Progress". A navigation bar shows "Year 1", "Year 2", "Year 3", and "Year 4". The main section is titled "Tasks" and contains a list of tasks: "09:20 [PENDING] Do homework - 10 pts", "10:20 [PENDING] Clean your room - 15 pts", and "11:20 [PENDING] Feed the cat - 5 pts". There are buttons for "Mark Selected as COMPLETED_PENDING_REVIEW" and "Approve Selected Task (APPROVED)". At the bottom, a progress bar shows "Level: 1" and "Total Points: 0".

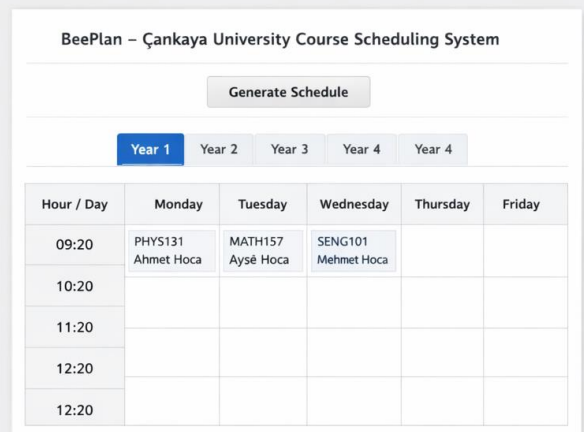
FINAL PRODUCT



The initial design of the BeePlan Course Scheduling System features a header with a bee logo and the title "BeePlan Course Scheduling System". Below the header is a "Generate Schedule" button. A navigation bar shows "Year 1", "Year 2", "Year 3", and "Year 4". The main section is a table with columns for "Hour / Day", "Monday", "Tuesday", "Wednesday", "Thursday", and "Friday". The table contains the following data:

Hour / Day	Monday	Tuesday	Wednesday	Thursday	Friday
09:20	PHYS131 Ahmet Hoca	MATH157 Aysè Hoca	SENG101 Mehmet Hoca		
10:20					
11:20					
12:20					

INITIAL DESIGN



The final product of the BeePlan Course Scheduling System features a header with the title "BeePlan – Çankaya University Course Scheduling System". Below the header is a "Generate Schedule" button. A navigation bar shows "Year 1", "Year 2", "Year 3", "Year 4", and "Year 4". The main section is a table with columns for "Hour / Day", "Monday", "Tuesday", "Wednesday", "Thursday", and "Friday". The table contains the following data:

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FINAL PRODUCT

3. AI Kullanım Analizi (AI Usage & Prompts)

Aşağıda projede kullanılan AI destekli geliştirme süreçleri detaylandırılmıştır.

3.1 AI Kullanım Tablosu

Süreç	Kullanılan Araç	Prompt	AI Çıktı Analizi	İnsan Müdahalesi
GUI Tasarımı	Gemini	"Design a Tkinter dashboard for a scheduling system"	GUI temel olarak çalıştı ancak hizalama zayıftı	Manuel grid & spacing düzenlendi
Kodlama	ChatGPT	"Write a course scheduling algorithm with constraints"	Algoritma çalıştı ancak instructor çakışması vardı	Aynı saat çakışma kontrolü eklendi
Kodlama	Claude	"Implement task approval logic"	Lifecycle eksikti	APPROVED durumu manuel eklendi
Testing	ChatGPT	"Find logical bugs in this Tkinter app"	Çakışma hatası tespit edildi	Kod revize edildi
Raporlama	Gemini	"Summarize AI usage in software projects"	Dil çok akademikti	Daha sade hale getirildi

3.2 Prompt → Output → Revision Örneği

Prompt:

"Generate a weekly timetable avoiding instructor conflicts."

AI Output:

- Aynı instructor aynı saatte farklı sınıflara atanabiliyordu.

Revision:

- Instructor için global zaman çakışma kontrolü eklendi.

4. V&V Test Raporları (Verification & Validation)

4.1 Test Case Tablosu

Test Case	Senaryo	Beklenen Sonuç	Gerçek Sonuç
TC-01	Aynı hocaya aynı saat 2 ders	Çakışma engellenmeli	Başarılı
TC-02	Cuma 13:20 ders ekleme	Ders eklenmemeli	Başarılı
TC-03	Görev onaylanmadan puan	Puan artmamalı	Başarılı
TC-04	Seviye yetmeden wish	Uyarı mesajı	Başarılı

4.2 AI Tutor ile Hata Çözümü

Bug 1:

- Instructor aynı anda iki sınıfa atanabiliyordu.
- **Çözüm:** OpenAI ile analiz → global schedule kontrolü eklendi.

Bug 2:

- Progress ekranında puanlar 0 görünüyordu.
 - **Çözüm:** APPROVED state eklendi.
-

4.3 Peer Review Bulguları

Student A → Student B:

- Task ID üretimi len()+1 çakışmaya yol açabilirdi.
- **Çözüm:** max id + 1 algoritması eklendi.

Student B → Student A:

- BeePlan'de dersler haftanın başına yığılıyordu.
- Kabul edilen durum, future improvement olarak not edildi.